

# Additional Materials

1. SLIB Matter D-2: State Investment Policy Annual Review and Update
2. SLIB Matter D-4: State Investment Allocation Presentation
3. SLIB Matter D-5: State Investment Allocation Changes
4. Howard Marks White Paper
5. Public Purpose Investments
6. Large Project Loan Program:
  - ☐ Potential Legislative Changes
  - ☐ Progress of Projects

June 1, 2017

BOARD MATTER D-2

**ACTION:** State Investment Policy Annual Review and Update

**AUTHORITY:** W. S. 9-4-716(a)

**ANALYSIS:**

The State Loan and Investment Board is required to review the Master Investment Policy and Sub-Policies (the "Policy") at least annually. RVK, investment advisor to the Board, worked with Treasurer's staff to review the Policy. Attached are the following:

- Memorandum from RVK with a summary of the proposed changes to the Policy
- Clean copy of the proposed revised Policy
- Redlined copy of the proposed revised Policy. (All revisions are redlined to show changes from the Board's current Policy with new language in red, deletions in blue and language that has been moved in green.)

**DIRECTOR'S RECOMMENDATION:**

The State Treasurer recommends that the Board approve the proposed changes to the State Loan and Investment Board's Master Investment Policy and Sub-Policies.

**BOARD ACTION:** **BOARD APPROVED WITH AMENDMENTS (see attachment)**

## **APPENDIX B. Common School Permanent Land Fund**

2. **Philosophy and Investment Strategy.** The main objectives of the CSPLF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are income generation, capital appreciation, total return, and protection against inflation. Capital preservation, ~~income generation~~ and liquidity are important secondary goals.

## **APPENDIX F. Excellence in Higher Education Endowment Fund**

2. **Philosophy and Investment Strategy.** The main objectives of the Higher Ed Fund are to produce endowment like long-term investment income while providing an appropriate level of safety and liquidity. The primary investment goals are income generation, capital appreciation, total return, ~~income generation~~, and protection against inflation. Capital preservation and liquidity are important secondary goals.



## Memorandum

To	Wyoming State Loan and Investment Board
From	RVK, Inc. ("RVK")
Subject	Investment Policy Review – Board Summary
Date	May 2017

In accordance with W.S. 9-4-716(a), we have performed the annual review of the Wyoming State Loan and Investment Board Master Investment Policy and Sub-Policies. In connection with this annual review, there are several developments that surround the need for extensive revisions to the investment policy at this time. They are:

- Recent asset allocation analysis and subsequent adoption of new policy targets for the different investment funds
- Creation of a separate sub-policy for each investment fund now that each fund has a distinct asset allocation
- Addition of new investment strategies related to the new asset allocation
- Addressing 2017 legislation including:
  - Investment funds committee
  - Change in equities cap to 70%
  - Creation of Pool A for non-permanent funds that can be invested in equities
- Allowance for a greater degree of internal management

Enclosed please find a copy of the current policy, incorporating proposed revisions and additional language in redline strikethrough format.

The remainder of this memo outlines the proposed policy revisions along with a brief description of the rationale for each change. We hope this is helpful in facilitating your review of the policy.

### **Section 2 – Investment Objectives and Priorities, Description of Portfolio, and General Principles for Achieving Return Objectives (pg. 3).**

- Language has been updated to emphasize the unique and differing objectives between funds. Previously, a universal set of priorities was established in this section which is not as applicable given the wide ranging needs and priorities of the various funds.

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- Updated the order of considerations (formerly labeled “objectives and priorities”) with emphasis on the differing objectives of each fund.

#### **Section 4.1 – Board Responsibilities (pg. 6)**

- Updated the order of board responsibilities to coincide with perceived order of strategic importance.

#### **Section 4.3 – State Treasurer Responsibilities (pg.6-7)**

- Updated responsibilities for consistency with actual practice, and to accommodate the establishment of the Treasurer’s Investment Funds Committee.
  - Added responsibilities xiii and ix:
    - Preside over meetings of the Treasurer’s Investment Funds Committee as Chairman.
    - Designate the Chief Investment Officer of the Treasurer’s Office or in their absence another member of the Treasurer’s Office Staff to serve as a member of the Treasurer’s Investment Funds Committee.
  - Removed responsibilities:
    - Monitor the quality of investment manager trade execution through a trading cost evaluation survey (a related change occurs in Section 16, clarifying that ultimately performance will be measured based on net of fees performance).

#### **Section 4.5 – Consultant Responsibilities (pg. 7)**

- Updated order of responsibilities and edits to reflect interaction with the Treasurer’s Investment Funds Committee.

#### **Section 4.6 – Custodian Responsibilities (pg. 8)**

- Modified monthly report due date from 10 days to 10 *business days*.

#### **Section 4.8 – Treasurer’s Investment Funds Committee (pg. 9)**

- New section, listing specific responsibilities of the Investment Committee in support of the Treasurer and Board.

#### **Section 4.9 – State Auditor Responsibilities (pg. 9)**

- Modified language related to the annual audit and annual financial report for simplicity.

#### **Section 5 – Cash Holdings (pg. 9)**

- Increased the maximum allowable cash balance for equity managers to 7.5% (from 5.0%).

#### **Section 6 – Public Purpose Investments (pg. 9-10)**

- Added language to specify that PPIs, while included as a line item in the investment performance report, are excluded from all fund performance calculations.

#### **Section 10 – Derivatives Policy (pg. 11-12)**

- Created sub-sections to more clearly define the conditions in which the use of derivatives is allowed.
  - Section 10.1. Allowable Use of Derivatives (this section does not apply to the use of derivatives in alternative investment portfolios).
  - Section 10.2. Change in Use of Derivatives. States that an investment manager must obtain the approval of the State Treasurer's Office if an investment manager desires to use derivatives in a manner which is not allowed under Section 10.1.
  - Section 10.3. Alternative Investment Portfolios. Guidelines for use of derivatives in alternatives.

#### **Section 11.1 – Portfolio Guidelines Pertaining to the Overall Investment Program (pg. 12-13)**

- Sub-bullet (d) – A maximum of 70% the total book value of permanent funds may be invested in equities and alternative investments (updated from maximum of 55% common stock).
- Sub-bullet (h) – Added provision that strategies described in this Section 11 may be managed (i) internally by the State Treasurer's Office, (ii) by one or more external managers, (iii) through one or more direct fund investments, and/or (iv) through one or more fund of funds arrangements.

## **Section 11.2 – Portfolio Guidelines Pertaining to Individual Strategies (pg. 13-21)**

- Added implementation guideline for each strategy allowing investment (i) through active management and/or (ii) passively through exchange traded funds (“ETFs”), mutual funds and other types of index funds.
- New Asset Class Sections Added
  - Emerging Markets Equity (added as a sub asset class of Public Equity) (a)
  - Preferred Stock (b)
  - Master Limited Partnerships (“MLPs”) (c)
  - Intermediate Government Bond Fixed Income (e)
  - Long Duration Fixed Income (f)
  - Low Duration Fixed Income (g)
  - Convertible Securities (h)
  - Investment Grade Fixed Income (j)
  - High Yield Fixed Income (k)
  - Bank Loans (l)
- Moved the guidelines for Cash and Extended Cash into this section. Previously it resided within the sub-policies for specific Funds with cash allocations.
- Re-labeled Internally Managed U.S. Fixed Income section as Intermediate Government Bond Fixed Income.
- Re-ordered objectives and guidelines for each asset class for consistency.

## **Section 12.2 – Policy Exceptions (pg. 21)**

- Added language stating that investment managers will be given an exception to compliance with the investment policy guidelines when commencing the implementation of a strategy or while closing a strategy but only for a period of time as determined by the State Treasurer.

## **Section 20 – Nominal Return Benchmarks (pg. 24-26)**

- Updated this section to reflect the recently approved new asset classes and their respective primary benchmarks.
- Added language describing the objective of actively managed strategies versus passively managed strategies.
- Specified in table header that market indices are net of fees unless passively managed, internally managed or otherwise indicated.
- Absolute Return secondary benchmark updated to HFRI FoF Composite Index (from HFN FoF Multi-Strat Index). RVK has recently recommended this change to all clients based on our research indicating the HFRI series of benchmarks is superior to the HFN series.

## **Section 21 – Local Government Investing (pg. 26-27)**

- Moved up to Section 21 (formerly Section 22).

## **Section 22 – Glossary of Terms (pg. 27-29)**

- Added various definitions as needed, and alphabetized.

## **Section 23 – Index Definitions (pg. 29-31)**

- Added index definitions for recently approved new asset classes, and removed obsolete index references. Section was also alphabetized.

## **Appendices – Sub-Policies on Funds (pg. 32-51)**

- Moved sub-policies from Section 21 to Appendix.
- Target Asset Allocation updated for each Fund.
- Created an appendix for each individual Fund, consisting of the following sub-sections:
  1. Fund Description
    - Describes how the corpus is funded and the treatment of income and capital gains.
  2. Philosophy and Investment Strategy



- Hathaway Scholarship Fund and Higher Education Fund main objectives updated to reflect income focus.
3. History and Purpose
    - New section, providing background on each Fund.
  4. Other Considerations
    - New section, providing other details specific to each Fund.
  5. Liquidity Requirements
    - Updated to be specific for each Fund.
  6. Risk
    - Targeted max drawdown added for each Fund, calculated from RVK risk analysis and Monte Carlo simulations.
  7. Return Expectations
    - PMTF, CSPLF, UPLF, PLF, Hathaway, Higher Ed – Decreased expectation to CPI + 300 basis points (down from CPI + 400 basis points).
    - Pool A – Established expectation at CPI + 200 basis points.
  8. Spending Policy
    - PMTF, CSPLF – Added the spending policy changes set by the Legislature commencing July 2017, fiscal year 2021, and fiscal year 2022.
    - Hathaway Scholarship, Higher Education – Spending policies added.
  9. Target Asset Allocation and Benchmarks
    - All Fund – Minimums and maximums added for each Fund's long term target allocation.
    - All Funds – Target asset allocations updated to the recently approved long-term targets.

- Specific target allocations for opportunistic investments removed, as the availability of opportunities is episodic in nature. PMTF, CSPLF, UPLF, PLF, Hathaway, Higher Ed, Workers' Comp, and Pool A allow a maximum of 5% at the time of commitment.

## General

- Tobacco Settlement Trust has been replaced with the "Pool A Investment Account". Pool A was created by the Legislature in 2017 in response to the passage of a Constitutional amendment in 2016 which allowed the Legislature to specify certain non-permanent funds that can hold investments in equities as well as fixed income securities. It is one of two pools that hold a variety of funds ranging from agency budgets to reserve and savings accounts and special purpose trusts (including the Tobacco Settlement Trust).
- Barclays indices have been re-named "Bloomberg Barclays".



**STATE OF WYOMING  
STATE LOAN AND INVESTMENT BOARD**

**MASTER INVESTMENT POLICY and SUB-POLICIES**

Updated ~~February 2~~June 1, 2017

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## **SECTION 1. INTRODUCTION**

The purpose of this document is to establish the Master Investment Policy and Sub Investment Policies for the State of Wyoming State Loan and Investment Board (the "Board"). The Board is comprised of five elected officials: Wyoming's Governor as chairman of the Board, Secretary of State, State Auditor, State Treasurer and State Superintendent of Public Instruction.

The Board is responsible for the fiduciary oversight of ~~these~~the invested public funds ~~of the State of Wyoming (the "State").~~ The Board has chosen these policies as the most appropriate policies to achieve the investment objectives described below. Wyoming Statute (~~("W.S.")~~) 9-4-716 states that the Board shall adopt investment policy statements for Wyoming State funds and shall review these investment policy statements at least annually.

## **SECTION 2. INVESTMENT OBJECTIVES AND PRIORITIES, DESCRIPTION OF PORTFOLIO, AND GENERAL PRINCIPLES FOR ACHIEVING RETURN OBJECTIVES**

### **2.1 — Investment Policy.**

It is the ~~investment~~ policy ~~for~~of the Board to invest public funds of the State ~~of Wyoming (the "State")~~ in a manner that strives for ~~maximum safety, provides adequate liquidity to meet all operating requirements, and achieves~~ the highest possible investment risk-adjusted total return consistent with ~~the primary objectives~~an appropriate level of safety ~~and liquidity.~~

**2.2 — Investment Objectives and Priorities.** liquidity, and consideration of the unique circumstances for each fund. The current State portfolio consists of the following Permanent and Non-Permanent Funds:

#### **a) Permanent Funds**

- i. Permanent Mineral Trust Fund; [Appendix A];
- ii. Common School Permanent Land Fund; [Appendix B];
- ~~iii. Permanent Land Fund;~~
- ~~iv.~~ iii. University Permanent Land Fund; [Appendix C];
- iv. Permanent Land Fund Pool [Appendix D];
- v. Hathaway Scholarship Fund; [Appendix E];
- vi. Excellence in Higher Education Endowment Fund; [Appendix F]; and
- vii. Workers' Compensation Fund; [Appendix G].

#### **b) Non-Permanent Funds**

- ~~i. Tobacco Settlement Trust Fund;~~
- i. Pool A Investment Account [Appendix H];
- ii. State Agency Pool; [Appendix I]; and
- iii. Wyoming State Treasurer's Asset Reserve (~~("WYO-STAR.")~~) [Appendix J].

~~These~~Specific objectives and priorities ~~apply to~~for each of the ~~State individual pools and~~ funds ~~as a whole. Specific objectives and priorities~~ are further delineated in the sub-policies ~~below attached in the appendices.~~ Specific objectives and priorities for individual asset managers are delineated by mandate set forth where applicable below.

All available State funds shall be invested with the following ~~objectives and priorities~~considerations:

- a) Safety of principal. Recognition of differing objectives and needs of various fund portfolios while emphasizing the highest potential for risk-adjusted total return;
- a)b) Investments ~~shall be undertaken in a manner~~ that ~~seeks~~seek to ensure the preservation of capital and safety of principal in the overall portfolio;
- b)c) Liquidity requirements of anticipated and unanticipated expenditures;
- c)d) Yield;

- d) ~~Recognition of differing objectives and needs of various fund portfolios;~~
- e) Conformance with State law and other pertinent legal restrictions;
- f) ~~Maximization~~ Where appropriate, maximization of the total rate of return on investment consistent with the foregoing objectives; and
- g) Diversification by asset type, security and investment manager in order to smooth the volatility of ~~quarterly returns~~ returns and improve the overall resilience of the investment portfolios.

### **SECTION 3. STANDARDS OF CARE**

**3.1 Prudence.** All participants in the investment process shall act responsibly as custodians of the public trust. The standard of prudence to be applied by the ~~officers~~ employees of the State Treasurer's Office and external service providers shall be as required under W.S. 9-4-715(d). The Board, the State Treasurer, all members of the Treasurer's Investment Funds Committee, all designees of the State Treasurer, and any other fiduciary appointed by the State Treasurer shall exercise the judgment and care of a prudent investor as required under the prudent investor rule set forth in the Uniform Prudent ~~Advisor~~ Investor Act, W.S. 4-10-901 to 4-10-913 (the "Prudent Investor Rule"). This Act states that "[a] trustee shall invest and manage trust assets as a prudent investor would, by considering the purposes, terms, distribution requirements and other circumstances of the trust." W.S. 4-10-901. Investments or groups of investments shall not be evaluated in isolation but in the context of the entire investment portfolio and as part of an overall investment strategy of the trust or fund from which the investment is derived, consistent with the policies for such trust or fund established under W.S. 9-4-716 by the Board.

The purchase of a security or the making of any direct investment by the State Treasurer or the State Treasurer's designee in a security shall not constitute a delegation of the State Treasurer's duties. The State Treasurer may delegate investment and management functions that a prudent investor of comparable skills could properly delegate under the circumstances. The State Treasurer shall exercise reasonable care, skill and caution in:

- a) Selecting an agent;
- b) Establishing the scope and terms of the delegation, consistent with the purposes and terms of the trust; and
- c) Periodically reviewing the agent's actions in order to monitor the agent's performance and compliance with the terms of the delegation.

### **3.2 Ethics and Professionalism.**

- a) **General.** Members of the Board, its staff, the State Treasurer's Office, members of the Treasurer's Investment Funds Committee, and the Consultant (as hereinafter defined) responsible for investment decisions or who influence investment decisions ("Individuals") shall be held to the highest standards of professional and ethical conduct and should be committed to a culture of honesty, integrity and accountability. Individuals shall not engage in any professional conduct involving dishonesty, fraud, deceit or misrepresentation or commit any act that reflects adversely on their honesty, trustworthiness or professional competence. Individuals shall be governed by applicable State statutes, including without limitation W.S. 6-5-118, W.S. 9-13-101 *et seq.* and W.S. 16-6-118.
- b) **Compliance with Laws, Rules, Regulations and Policies.** Individuals must comply with both the letter and spirit of all applicable laws, rules and regulations and the terms and provisions of this investment policy.

- c) Conflicts of Interest.** Individuals have a duty to avoid financial, business or other relationships which might cause a conflict with the performance of their duties or could reasonably be expected to interfere with their duties or their ability to make unbiased and objective recommendations and decisions. Individuals should conduct themselves in a manner that avoids even the appearance of conflict between their personal interests and their duties as a public official or employee of the State. Conflicts of interest may arise in many ways. Examples include, but are not limited to:
- i. Acceptance of gifts, payments or services from those seeking to do business with the State as described in more detail in Section 3.3 below;
  - ii. Placement of business with an entity owned or controlled by an Individual or an Individual's family;
  - iii. Ownership of, or personal interest in, a company which is a vendor of the State;
  - iv. Ownership of, or personal interest in, any security purchased directly by the State through the State Treasurer's Office or at the direction of the Board; and
  - v. Compensation to an Individual by a vendor or potential vendor of the State.
- d) Confidentiality.** Individuals shall not disclose to any other person official information which Individuals obtain through or in connection with their duties, unless the information is available to the general public or unless the disclosure is authorized by law.
- e) Proper Use of Assets.** Individuals shall endeavor to protect the State's assets and ensure their efficient use. State assets, such as funds and equipment, may only be used for legitimate State purposes.
- f) Fair Dealing.** Individuals should endeavor to deal fairly with the State's investment managers and vendors. Individuals should not take unfair advantage of anyone through illegal conduct, manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any other unfair dealing practice.

**3.3 Gifts, Benefits or Favors.** The work of the Board and its staff should always be free from even the inference or perception that favorable treatment was sought, received or given on the basis of the furnishing or receipt of gifts, benefits, entertainment, favors, hospitality or other gratuities. In furtherance of this goal, the following guidelines should be observed:

- a) Individuals may not accept a gift from a vendor unless the gift has a known or apparent value of \$250 or less;
- b) Printed informational, educational, advertising or promotional material shall not be considered a gift;
- c) In no event shall gifts of cash ever be accepted in any amount;
- d) Individuals may accept meals and attend receptions in connection with business discussions at which the host is present;
- e) Individuals may accept invitations to attend activities, events and entertainment in connection with business discussions at which the host is present with a known or apparent value of \$250 or less;
- f) Individuals may not accept multiple gifts and/or invitations for activities, events or entertainment from one vendor in a consecutive 12 month period if the total known or apparent value of all such gifts, activities, events and entertainment is more than \$250;
- g) Individuals may accept travel, registration and lodging paid by someone other than the State for meetings or educational seminars which are necessary or relevant to the operations of the State's investment program; and
- h) Loans from vendors may not be accepted in amounts in excess of \$250 except for loans by recognized banks and financial institutions which are generally available at market rates and terms.

Vendor is defined as an existing or prospective provider of investment related services to the Board and/or the State Treasurer's Office including, but not limited to, brokers, investment managers, custodian bank representatives and consultants.

It is important that Individuals who make or influence investment decisions act objectively without interference from any conflict of interest. Therefore, should an Individual violate any guidelines described above in Sections 3.2 or 3.3, or otherwise have a conflict of interest, then that Individual shall be forced to abstain from any discussions, recommendations and votes involving that vendor at Board meetings or investment working meetings.

**3.4 Disclosure.** All Individuals must reaffirm their understanding and compliance with the policies contained in Sections 3.2 and 3.3 above in the form of an annual disclosure report to the Office of State Lands and Investments. Such disclosure shall comply fully with the provisions of W.S. 6-5-118 and shall be made a part of the minutes of the Board. The format and timing of such annual disclosure shall be as determined by the Office of State Lands and Investments. While disclosure shall be conducted on an annual basis, compliance with the policies stated in Sections 3.2 and 3.3 above is a continuing obligation and so, if a conflict of interest or other instance of non-compliance should arise at any time during the year, the Individual shall be responsible for reporting such instance to the Office of State Lands and Investments immediately.

## **SECTION 4. AUTHORITY AND RESPONSIBILITIES**

**4.1 Board Responsibilities.** The Board responsibilities shall include but not be limited to the following:

- ~~a) Advisor/investment consultant selection;~~
- ~~b) a) Annual review of master investment policy and sub policies;~~
- ~~b) Termination~~Annual review, assessment, and hiring establishment of fund asset allocations;
- ~~c) Advisor/investment managers consultant selection;~~
- ~~d) Quarterly review of the performance of the investment portfolio; and~~
- ~~e) Approval of investments for Local Government Entities (as hereinafter defined).); and~~
- ~~f) The Board may sue and be sued in the name of the Wyoming State Loan and Investment Board in the courts of this State and in no other jurisdiction on any mortgage, contract of sale or lease issued by the Board. Termination and hiring of investment managers.~~

The Governor is Chairman of the Board but in his absence from any meeting any of the Board members may act as Chairman Pro Tempore and preside at meetings. The Director of the State Land and Investment Office is the Chief Executive Officer of the Board. Prior to April 1, 1997, the Board was known and referred to as the Farm Loan Board.

**4.2 Appropriation.** The Board shall receive an appropriation directed to the Office of State Land and Investments to be used to compensate an investment consultant (the "Consultant") for its services to the State.

**4.3 State Treasurer Responsibilities.** The State Treasurer's responsibilities are detailed in the following statutes:

- a) The State Treasurer's responsibilities are detailed in the following statutes:
  - i. W.S. 9-4-715 Permissible Investments;
  - ii. W.S. 9-4-716 State Investment Policy; Investment Consultant;



- iii. W.S. 9-4-717 Additional Investment Matters;
- iv. W.S. 9-4-718 Investment Managers; and
- v. W.S. 9-4-831 Investment of Public Funds

b) The State Treasurer shall have the ~~authority to invest as follows~~ following responsibilities and authorities:

- i. Designate in writing those Treasury Office personnel authorized to invest on behalf of the State. Authority to manage the investment program is granted to the State Treasurer derived from the above statutes;
- ii. Establish and carry out written procedures and internal controls for the operation of the State investment program consistent with this investment policy. Procedures should include references to: safekeeping, delivery vs. payment, investment accounting, repurchase agreements, wire transfer agreements, collateral/depository agreements, banking services contracts, and portfolio rebalancing;
- iii. Conform State investment transactions as provided under the terms of this investment policy and the procedures established by the State Treasurer;
- iv. Be responsible for all transactions undertaken by the State and shall establish a system of controls to regulate the activities of subordinate officials;
- v. Monitor the commission recapture and discount brokerage programs and issue directed brokerage letters (limited to the commission recapture program) to the investment managers on an annual basis;
- ~~vi.~~ Monitor the quality of investment manager trade execution through a trading cost evaluation survey;
- ~~vii.~~ vi. Monitor performance reports from the Consultant;
- ~~viii.~~ vii. Select and review the State custodian and securities lending agent(s); ~~and~~
- ~~ix.~~ viii. Recommend termination to the Board of State investment managers when appropriate;
- ix. Preside over meetings of the Treasurer's Investment Funds Committee as chairman; and
- x. Designate the Chief Investment Officer of the Treasurer's Office or in their absence another member of the Treasurer's Office Staff to serve as a member of the Treasurer's Investment Funds Committee.

c) Internal Controls. The State Treasurer shall establish a system of internal controls and shall monitor such controls periodically. The controls shall be designed to prevent losses of funds arising from fraud, employee error, misrepresentation by third parties, or imprudent actions by staff. Such controls shall provide for but are not limited to:

- i. Separation of transaction authority;
- ii. Appropriate segregation of other related duties;
- iii. Custodial safekeeping of securities;
- ~~iv.~~ Holding of bearer form securities;
- ~~v.~~ iv. Clear delegation of investment authority;
- ~~vi.~~ v. Frequent reconciliation of investment and accounting records;
- ~~vii.~~ vi. Written confirmation of transactions;
- ~~viii.~~ vii. Supervisory controls;
- ~~ix.~~ viii. Control of collusion;
- ~~x.~~ ix. Development of electronic fund transfer agreements with lead banks and/or third party custodians; and
- ~~xi.~~ x. Conduct regular staff training to help assure and support internal controls.

d) The State Treasurer shall retain and authorize staff to support and maintain the integrity of the State investment program. In striving for management quality, it is the policy of the

State Treasurer to attract and retain qualified investment staff and to promote, encourage, and provide continuing education for the staff.

**4.4 Treasurer's Office Staff Responsibilities.** The State Treasurer's Office staff responsibilities shall be to implement and monitor the State investment program. Those responsibilities shall include:

- a) Investment research;
- b) Monitoring of Consultant recommendations;
- c) Monitor trade execution; and
- d) ~~Developing~~ Assist in developing and recommending policy, asset allocation, and portfolio structure.

**4.5 Consultant Responsibilities.** Duties of the State's Consultant shall include, but not be limited to the following:

- a) ~~Make~~ Prepare a quarterly performance report to include performance attributions on all State investment managers and total assets, including a review of investment policy guideline compliance and adherence to investment style and discipline;
- ~~a)b)~~ Provide recommendations to and assist the State Treasurer ~~and, the Treasurer's Investment Funds Committee, and the~~ Board regarding investment policy and strategic asset allocation. The recommendations regarding reaffirmation and modification of these policies shall be conducted at least on an annual basis;
- ~~b)~~ Prepare a quarterly performance report to include performance attributions on all State investment managers and total assets, including a check on guideline compliance and adherence to investment style and discipline;
- c) Assist the State Treasurer and the Board in the selection ~~and~~ of qualified State investment managers, and assist in the oversight of existing managers, including monitoring changes in personnel, ownership and the investment process;
- d) Assist the State Treasurer in:
  - i. The selection of a qualified custodian(s) and a securities lending agent(s) for the State;
  - ii. Negotiating fee arrangements and other contract terms with the investment managers on behalf of the State; and
  - iii. Negotiating and arranging for brokerage and custodial services for the State;
- e) Render special projects at the discretion of the Board;
- f) Handle certain other matters, primarily reporting, as described elsewhere in ~~these policies~~ this investment policy; and
- g) ~~The State's Consultant must be~~ Be independent with no conflicts of interests with any current or prospective service providers to the State.

**4.6 Custodian Responsibilities.** Duties of the custodian shall include, but not be limited to the following:

- a) Provide complete custody and depository services for the designated State accounts;
- b) Within 10 business days after month-end, provide a monthly report of the investment activities conducted by the investment managers for the State;
- c) Provide monthly and year-end accounting statements for all State funds, including all transactions; and
- d) Collect all interest income, dividends, and principal realization for the State accounts and properly report it on monthly statements.

**4.7 Internal and External Investment Manager Responsibilities.** Duties of the State investment managers shall include, but not be limited to the following:

- a) Adhere to the investment management style, concepts and principles for which they were hired by the State;

- b) Execute all transactions for the benefit of the State with brokers and dealers qualified to execute institutional orders on an ongoing basis seeking the best cost of execution for the State and where appropriate, facilitate the recapture of commissions on behalf of the State; and
- c) Reconcile monthly accounting, transaction and asset summary data with custodian valuations and communicate and resolve any significant discrepancies with State's Consultant and custodian.

External investment managers for the State (not employees of the State of Wyoming) responsibilities shall also include:

- d) Provide the State Treasurer's Office with a written agreement to invest within the guidelines established in ~~these policies~~ this investment policy and corresponding sub-policies. Alternative ~~Investment~~ investment managers will provide appropriately comparable documents, such as limited partnership agreements;
- e) Provide the State Treasurer's Office with proof of liability and fiduciary insurance coverage;
- f) Be recognized as providing demonstrated expertise over a number of years in the management of institutional assets;
- g) Maintain frequent and open communication with the State Treasurer, State Treasurer's staff, and the State's Consultant on all significant matters pertaining to its firm's ownership, investment style and philosophy, changes in personnel, significant client departures and periods of underperformance; and
- h) Be a registered investment advisor under the Investment Advisers Act of 1940 as amended, if required to be registered by the terms of such Act.

**4.8.4.8 Treasurer's Investment Funds Committee.** The Treasurer's Investment Funds Committee responsibilities shall be to aid the State Treasurer and the Board to implement and monitor the State investment program. Those responsibilities shall include:

- a) Provide advice in connection with investment manager selection for the State investment program;
- b) Provide consultation in connection with the review of this investment policy including the review of the asset allocation developed and implemented for each fund;
- c) Periodically review portfolio performance and track adherence to target allocations.
- d) Periodically review manager performance;
- e) Advise the Treasurer and staff on key economic trends and matters relevant to the efficient management of Wyoming's investments; and
- f) Act as a sounding board for the Treasurer and staff on matters between Board meetings pertaining to developments in the State's portfolio or the economy.

**4.9 State Auditor Responsibilities.** Duties of the State Auditor shall include, but not be limited to the following:

- a) Maintain the State's accounting records, vouchers, documents, contracts and fiscal accounts;
- b) Order all payments into and out of the funds held in the State Treasury;
- c) Serve as the State's controller, chief accountant, chief fiscal officer, and State payroll officer and to supervise the issuance of all warrants ~~(W.S. 9-1-402);~~
- d) Audit and settle all claims against the State;
- e) Draw all warrants upon the State Treasury;
- f) ~~Provide~~ Participate in an annual audit and provide an annual financial report to the fiscal affairs of the State, prepared in conformance with generally accepted accounting principles ~~(W.S. 9-1-403);~~ and
- g) ~~The State Auditor's Office is required by the 1993 Session Law, Chapter 225, to have an audit resulting in the completion of the Wyoming Comprehensive Annual Financial Report (CAFR). In addition, the State Auditor's Office shall coordinate the~~

~~single~~Coordinate the audit of the State's federal programs to comply with federal requirements.

## **SECTION 5. CASH HOLDINGS**

Equity managers for the State shall be fully invested at all times, except in anticipation of large withdrawals instructed by the State Treasurer's Office. Equity managers should maintain less than 7.5% of their portfolios in cash equivalents except for periods of short-term portfolio repositioning not to exceed 5 trading days, unless the contract with the equity manager specifically provides otherwise. Fixed income managers for the State may maintain higher cash balances. An exception shall be made for ~~Alternative Investments~~alternative investments.

## **SECTION 6. PUBLIC PURPOSE INVESTMENTS**

Public Purpose Investments (~~("PPIs")~~) are a category of investments authorized by the Wyoming State Legislature (~~the "Legislature"~~) committing State funds to projects or programs specifically chosen by the Legislature to further various public purposes or benefits for the State and its citizens. The array of these legislatively designated investments fall into two broad categories: those in which statute commits funds to specific investments and those where statute directs State agencies to exercise judgment for programs authorized by the Legislature. This latter group can be further subdivided into programs where the State Treasurer's Office has specific responsibilities and those where other agencies bear the bulk of those responsibilities.

The State Treasurer's Office, as well as other agencies with programmatic responsibilities, ~~has~~may have unique ~~rubrics and~~rubrics guiding the evaluation of investment opportunities. Successful candidates are evaluated and awarded pursuant to authorizing statutes including in some cases the Prudent Investor Rule. Nevertheless, ~~Public Purpose Investments~~PPIs are not generally chosen for their contribution to the portfolio's performance or its ~~safety~~overall soundness. Moreover, owing to the fact these investments are ~~unique in nature~~often idiosyncratic, they are not easily judged against peers and therefore do not lend themselves to treatment in an index or against other more traditional metrics. Accordingly, their inclusion in either permanent or non-permanent portfolios adds an element which is difficult to classify and which can detract from performance as well as add risk. ~~PPI's are capped at \$600,000,000 across all portfolios.~~ PPIs are ~~not included in~~as a separate line item within the annual portfolio analysis and excluded from all fund performance calculations as there are no appropriate indices which can provide a context for peer review.

## **SECTION 7. POOLED/COMMINGLED INVESTMENTS**

**7.1 Commingled Investments.** Commingled investments may be made by the State in cases where there is an operational efficiency, fee advantage, or other demonstrable benefit to the portfolio gained through such an investment.

**7.2 Restricted Securities.** Investments in mutual or commingled funds which invest in securities which the State could not own directly are permitted, so long as the overall characteristics of the mutual or commingled fund are generally consistent with this investment policy. While it is not expected that mutual or commingled fund guidelines will align perfectly with this investment policy, it is expected that mutual or commingled funds will be vetted to ensure a reasonably high degree of consistency with this investment policy before an investment is made. All diversified money market funds shall comply with W.S. 9-4-831(g), Investment of Public Funds.

**7.3 Mutual Fund Investments.** With the approval of the Board, the State Treasurer may invest in a diversified mutual fund as long as it is registered under the Securities Act of 1933 and Investment Company Act of 1940, as amended, and has qualified under state registration requirements, if any, to sell shares in this State. The diversified mutual fund must be purchased at the current net asset value.

## **SECTION 8. PERMISSIBLE INVESTMENTS BY THE STATE TREASURER'S OFFICE**

**8.1 Statutory Provisions.** The investment of State funds by the State Treasurer's Office and investment managers shall comply with applicable statutory provisions. Some of these statutes are listed below:

- a) W.S. 2-3-301 \_\_\_\_\_ Standard for Fiduciaries;
- b) W.S. 9-4-715 \_\_\_\_\_ Permissible Investments;
- c) W.S. 9-4-716 \_\_\_\_\_ State Investment Policy; Investment Consultants;
- d) W.S. 9-4-717 \_\_\_\_\_ Additional Investment Matters;
- e) W.S. 9-4-718 \_\_\_\_\_ Investment Managers;
- f) W.S. 9-4-831 \_\_\_\_\_ Investment of Public Funds; and
- g) ~~Title 9, Chapter 4, Article 11~~ W.S. 9-4-1101 et seq. Tax and Revenue Anticipation Notes.

**8.2 Public Equity Security Restrictions.** All public equity investments, over-the-counter (~~OTC~~) securities, and other equity related securities held by the State shall be limited to securities that are actively traded on U.S. exchanges or Non-U.S. exchanges including the NASDAQ. Public equity holdings shall be restricted to companies which have a history of more than 3 years continuous operation (current firm and/or predecessor firm), unless the contract with the investment manager specifically provides otherwise. Furthermore, securities that are acquired as the result of corporate actions are permitted. ~~Pursuant to W.S. 9-4-715(b), the State Treasurer may invest monies of the permanent funds in equities.~~

**8.3 Alternative Investment Restrictions.** Alternative ~~Investments~~investments which the State obtains in the form of a security shall follow the process outlined in W.S. 9-4-715(~~a~~c). Alternative ~~Investments~~investments and strategies encompass a broad range of securities and investments. No specific restrictions are made except that leverage, if utilized, must be limited to less than 50% at the limited partnership level in which the State is an investor; provided, however, for core real estate investments, leverage should not exceed 40% across the entire portfolio and there are no specific limits on leverage for non-core real estate managers.

## **SECTION 9. PROHIBITED INVESTMENTS FOR SEPARATE ACCOUNT SITUATIONS**

The following investments are prohibited in separate account situations (i.e., where the investment manager can tailor the investment portfolio to comply with State guidelines and the securities are not commingled with those of other clients):

**9.1 Self-Dealing Transactions.** Investment managers cannot purchase or hold any security that is issued by a corporation where the investment management firm may have any type of ownership relationship. An ~~example of an~~ exception can be ~~found~~made in the case where an investment manager is attempting to replicate an index in which the investment manager's firm or parent's security is represented. Since the investment manager is simply attempting to replicate the index, such holding does not represent a self-dealing transaction. Another exception may be ~~made~~allowed for ~~Alternative Investment~~alternative investment managers where investments may be made in vehicles by the investment managers for the managers' account and/or the managers' professionals and/or families.

**9.2 Floating Rate Securities.** Floating rate securities, the interest rate of which does not reset as a result of changes in one or more reference interest rates, are prohibited. Examples of prohibited floating rate securities are those whose interest rate reset is based on an index of commodities or equity securities. Reverse floaters are also prohibited.

**9.3 Individual Certificates of Deposit and Time Deposits.** Individual certificates of deposit and time deposits may not exceed \$250,000 unless they are 100% collateralized by eligible securities or fully covered by a surety bond.

**9.4 Letter Stock.** Letter stock and other unregistered equity securities are prohibited.

**9.5 Real Estate.** Real Estate, either private or public, is prohibited. An exception is made if an external investment manager that has been retained as a dedicated real estate investment manager manages the account, if the investment is part of an Alternative Investment alternative investment or as provided in W.S. 9-4-715(k), or if Real Estate Investment Trusts-(REITs) are included in the composition of the investment manager's stated benchmark.

**9.6 Short Sales and Margin Transactions.** Short sales and margin transactions are prohibited except as detailed in Section 10 the derivative policy below.

## **SECTION 10. DERIVATIVES POLICY**

**10.1 Allowable Use of Derivatives.** Derivative instruments may be used selectively by external in lieu of physical securities by investment managers for the State in lieu of physical securities, under the following conditions:

- a) Derivatives may be used (i) when derivatives they offer better liquidity (lower transaction costs), (ii) when they offer greater precision for the purposes of managing a portfolio's duration, yield curve exposure, prepayment or credit risk or (iii) to hedge foreign currency risk.
- b) Derivatives will may only be used primarily to reduce risk exposures, but derivatives may also be employed to increase exposure to a certain risk factor if that desired exposure is not easily obtained via physical securities.
- c) Permissible derivative instruments include futures, forwards, options and swaps. Warrants are only permitted when attached to securities authorized for investment.
- d) Currency forward and/or swap contracts are permitted for the purpose of hedging foreign currency exposure by investment managers that have received permission from the Board. Foreign exchange (FX) risk occurs when adverse movements in foreign exchange rates create a negative currency return. Investment managers must review their use of derivatives with the State Treasurer prior to employing derivative tactics. Further, investment managers should The use of derivatives by an investment manager may not materially alter their portfolio risk profile beyond that which is implied by their investment style.
- e) Under no circumstances should leverage be employed in the purchase of securities with a possible exception for Alternative Investment.

This Section does not apply to the use of derivatives in alternative investment portfolios- which is governed by Section 10.3 below.

**10.2 Change in Use of Derivatives.** An investment manager must obtain the approval of the State Treasurer's Office if an investment manager desires to use derivatives in a manner which is not allowed under Section 10.1 above or if, at any time, the investment manager desires to change how it utilizes derivatives in its management of the funds of the State. Each permitted



investment manager utilizing derivative securities shall prepare, maintain, and periodically deliver a written derivatives policy to the State Treasurer's Office ~~and the Board~~.

**10.3 Alternative Investment Portfolios.** Derivatives may be utilized within ~~Alternative Investment~~alternative investment portfolios provided that the instruments and strategies utilized are consistent with ~~the~~this investment policy of the ~~Alternative Investment~~alternative investment vehicle and that the State's Consultant has reviewed, approved, and is monitoring their use. The State's Consultant shall monitor these instruments and strategies used to ensure that they are not expected to materially or adversely alter the portfolio risk profile in any given market cycle.

## **SECTION 11. PORTFOLIO GUIDELINES**

### **11.1 Pertaining to the Overall Investment Program (exceptions may apply to Alternative Investments as detailed in their respective contracts).**

- a) A maximum of 1% of the outstanding common shares of any corporation shall be owned by the State. An exception is made for ~~Alternative Investments~~alternative investments and for companies with a market capitalization below \$5 Billion as described in Section 11.2(a)(ii).
- b) A maximum of 1.5% of the total book value of permanent funds and non-permanent funds that can invest in equities shall be invested in the common stock of any corporation.
- c) The State Treasurer or designee can invest in any class of security not otherwise authorized by law, provided the security was authorized by law at the time it was acquired and the total book value of all securities not authorized by law shall not exceed 1% of the total book value of the permanent fund accounts and the accounts of the non-permanent funds that can invest in equities, and provided further that any such investment shall be in accordance with the fiduciary standards specified in W.S. 2-3-301.
- d) A maximum of ~~55~~70% of the total book value of permanent funds ~~shall~~may be invested in ~~common stock~~equities and alternative investments.
- e) Security selection, portfolio structure and timing of purchase and sales are delegated to the investment manager.
- f) The Board is concerned with terrorism and human rights violations occurring worldwide, yet recognizes its fiduciary responsibility to invest only in the best economic interest of the portfolio. While the Board cannot make investments based on social or political objectives, it does consider the economic effects of social and humanitarian issues in the analysis of investments. The Board seeks to avoid investments that support terrorism or the violation of human rights. As such, the Board ~~shall require~~requires its investment managers to acknowledge that they will ~~seek~~strive to avoid such investments. Specifically, investment managers are required to check portfolio holdings no less frequently than quarterly against the companies listed on the Specially Designated Nationals List and the countries listed on the Lists of Sanctioned Countries, maintained by the U.S. Treasury Department Office of Foreign Assets Control ("OFAC"), to ensure that the companies or countries on the list are not represented in the portfolios. If a current holding appears on the list at the time of the quarterly check, the investment manager will eliminate the position from the portfolio within a reasonable period of time and will not make additional purchases unless the issuer is removed from the OFAC list.
- g) Commodities, commodity contracts, and natural resource properties are generally discouraged owing to Wyoming's native correlative exposure to natural resource development. Any investment in commodities, commodity contracts, or natural resource property such as oil or timber must take into consideration overall exposure to natural resources and commodities including Wyoming's general economy. An exception is made if the investment is part of an ~~Alternative Investment~~alternative investment.

h) The strategies described in this Section 11 may be managed (i) internally by the State Treasurer's Office, (ii) by one or more external managers, (iii) through one or more direct fund investments, and/or (iv) through one or more fund of funds arrangements; provided, however, all external managers must be selected by the Board as provided in W.S. 9-4-718 and the material terms of the instruments governing the investment for all alternative investments must be approved by the Board pursuant to W.S. 9-4-715(c).

**11.2 Pertaining to Individual ~~Investment Managers~~ Strategies.** The following guidelines apply to internal and external investment managers for each of the investment strategies utilized by the State, unless the contract with the investment manager specifically provides otherwise. External investment firms shall have a demonstrated record in managing institutional portfolios of strategies for which they were hired by the State.

For all fixed income credit rating guidelines, Standard and Poor's, Fitch, or Moody's ratings are acceptable. If the issue is rated by more than one rating agency, the lower rating shall apply. Securities that are not rated will be, in the judgment of the investment manager, of credit quality equal or superior to the standards described below.

**~~a) Public Equity Managers.~~** The objectives of the State's public equity investments are to provide the State with total return, capital appreciation, protection against inflation risk and consistent returns as measured by the appropriate ~~stock~~ index. The State shall employ diversification by investment style (e.g., value versus growth) and capitalization (small, mid, large).

**a) The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through exchange traded funds ("ETFs"), mutual funds and other types of index funds.** The guidelines in this section apply to all active public equity managers, which are diversified across the following strategies:

- a. All-Cap U.S. Equity
  - b. Small-Cap U.S. Equity
  - c. ~~Global Equity~~
  - d. International Equity
  - e. Emerging Market Equity
- i. A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one ~~security company~~.
  - ii. A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.
  - iii. The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.
  - iv. A minimum number of 20 securities shall be held.

**b) Internally Managed International Equity ETF Portfolio.** ~~The objectives of the State's internally managed international equity exchange traded fund ("ETF")~~ **Preferred Stock.** The objectives of the State's preferred stock investments are to provide income to the State through dividend payments with the potential for capital appreciation and consistent returns as measured by the appropriate index. Preferred stock investments are a class of stock that provides priority over common stockholders on earnings in the event of liquidation. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through



ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active preferred stock managers.

- i. Minimum issue credit rating for preferred stock at the time of purchase will be BB or equivalent.
- ii. A maximum of 35% of the total portfolio of the investment manager may be invested in securities rated below investment grade.
- iii. A maximum of 10% of the total portfolio of the investment manager may be invested in any one issuer.

**b)c) Master Limited Partnerships (“MLPs”).** The objectives of the State’s MLP investments are to provide the State with total return, capital appreciation, protection against inflation risk and consistent returns as measured by the MSCI ACW Ex US Index. ~~The portfolio will primarily invest in ETFs.~~ The State Treasurer’s Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active MLP managers.

**c) Internally Managed University of Wyoming Portfolio Management Program.** ~~The objectives of the State’s internally managed equity investments are to provide the State with total return, capital appreciation, protection against inflation risk and consistent returns as measured by the S&P 500 Index. The funds shall be managed by the University of Wyoming’s Portfolio Management Program as a separate operating agency of the State of Wyoming and the funds for the portfolio shall come exclusively from the University Permanent Land Fund.~~

- ~~i. A maximum of 515% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager may be invested in any one security.~~
- ~~ii.i. A maximum of 1% of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.~~

**d) Core Fixed Income.** The objectives of the State’s core fixed income investments are to provide stable income to the State, safety of principal, diversification of the State’s fixed income portfolios, yield enhancement and, consistent returns as measured by the appropriate index. The State Treasurer’s Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active core fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.
- iii. Non-U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.
- iv. Private mortgage-backed and asset-backed securities are limited to 10% of the portfolio market value.
- v. Commercial mortgage-backed securities are permitted but shall comprise no more than 10% of the portfolio market value.
- vi. Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.
- vii. Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.

- ~~iii-viii.~~ The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting  
Commercial paper of all issuers shall not exceed \$500,000,000.
- ~~ix.~~ A minimum number of 25 securities shall be held.
- ~~iv-x.~~ Duration must fall in the range of +/- 20 securities shall be held or represented by a corresponding exchange-traded fund.% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Bond Index by more than 20%.
- ~~xi.~~ Average portfolio credit quality must be at least A- or equivalent.
- ~~xii.~~ Minimum issue credit rating at time of purchase shall be:
  - a. A1 or equivalent for commercial paper;
  - b. BBB- or equivalent for corporate bonds, Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities, Non-U.S. Dollar-Denominated Securities and Dollar-Denominated Emerging Market Securities.
- ~~xiii.~~ American Depository Receipts cannot exceed 15  
Standalone private placements, including 144A, securities are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**e) Intermediate Government Bond Fixed Income.** The objectives of the State's intermediate government bond fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, liquidity as needed, flexibility to the overall investment program and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active intermediate government bond fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. Non-U.S. Government securities are allowed, up to a maximum of 20% of the portfolio at.
- iii. Duration should not exceed +2 years of the index.

**~~v.~~f) Long Duration Fixed Income.** The objectives of the State's long duration fixed income investments are to hedge the portfolio against any one-time adverse interest rate based changes, to plan liabilities and to provide consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active long duration fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.
- iii. A maximum of 30% of the portfolio may be invested in U.S. dollar denominated non-U.S. fixed income securities.
- iv. A maximum of 10% of the portfolio may be invested in U.S. dollar denominated emerging market securities.
- v. A maximum of the appropriate benchmark plus 5% of the portfolio may be invested in convertible and municipal securities.
- vi. Portfolio duration for long duration bond portfolios must be within plus or minus 2 years of the Bloomberg Barclays U.S. Government/Credit: Long Term Bond Index. Custom portfolios designed to match the duration of plan liabilities must be within plus or minus 1 year of the duration of plan liabilities.

- vii. Average portfolio quality will be BBB+ or better. Securities shall be rated investment grade at time of purchase.

**g) Low Duration Fixed Income.** The objectives of the State's low duration fixed income investments are to provide stable income to the State, preservation of capital, diversification of the State's fixed income portfolios, a ready source of liquidity, stable investment return, and consistent returns as measured by the appropriate index. The low duration fixed income portfolio should consist of securities which provide exposure to the low duration U.S. fixed income market including Treasury and government agency bonds, corporate debt, mortgages, asset backed securities and municipals with an overall duration similar to the Bloomberg Barclays US Gov't/Credit: 1-3 Year Bond Index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active low duration fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.
- iii. Corporate securities will be subject to a maximum limit of 60%.
- iv. Agency Mortgage Backed Securities ("MBS") will be subject to a maximum limit of 5%. Non-agency MBS are not permissible.
- v. Asset Backed Securities ("ABS"), excluding CMBS, will be subject to a maximum limit of 10%. Minimum rating at time of purchase is AAA, with the exception of up to 5% maximum ABS rated below AAA but no lower than A.
- vi. Commercial Mortgage Backed Securities ("CMBS") are subject to a maximum limit of 5%.
- vii. Portfolio duration must be within plus or minus 30% of the Bloomberg Barclays US Gov't/Credit: 1-3 Year Bond Index.
- viii. Average portfolio quality will be A or better.

**h) Convertible Securities.** The objectives of the State's convertible securities investments are to provide stable income to the State, diversification of the State's fixed income portfolios, potential for capital appreciation and consistent returns as measured by the appropriate index. Convertible securities are fixed income securities that can be converted into a predetermined amount of the company's equity at certain times during the life of the bonds. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active convertible securities managers.

- i. Convertible securities that are traded over-the-counter should be of acceptable credit quality. However, a convertible manager may invest in below investment grade and non-rated securities per their internal credit analysis and investment process.
- ii. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**i) Credit Fixed Income.** The objectives of the State's credit fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active

credit fixed income managers. The investment managers implementing an active strategy shall have the flexibility to tactically allocate around the strategic targets.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.
- ii. Duration must not exceed + 2 years of the Custom Credit Index (as defined in Section 20 below).
- iii. Minimum issue credit rating for commercial paper will be A1 or equivalent.
- iv. Average portfolio credit quality must be at least B or equivalent.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**Investment Grade Credit Sleeve:**

- vi. Minimum issue credit rating at the time of purchase shall be BBB- or equivalent for individual securities.
- vii. Between 10% and 60% of the total portfolio shall be invested in investment grade rated securities.

**High Yield Sleeve:**

- viii. Minimum issue credit rating at the time of purchase shall be:
  - a. CCC- or equivalent for individual securities; and
  - b. Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- ix. A maximum of 40% of the total portfolio shall be invested in high yield bonds.

**Bank Loan Sleeve:**

- x. Minimum issue credit rating at the time of purchase shall be:
  - a. CCC or equivalent for individual securities; and
  - b. Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- xi. Between 40% and 80% of the total portfolio shall be invested in bank loans.

**j) Investment Grade Fixed Income.** The objectives of the State's investment grade credit fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active investment grade fixed income managers.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.
- ii. Duration must not exceed + 2 years of the Bloomberg Barclays U.S. Credit Index.
- iii. Average portfolio credit quality must be at least BBB or equivalent.
- iv. Minimum issue credit rating at the time of purchase shall be BBB- or equivalent for individual securities.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**k) High Yield Fixed Income.** The objectives of the State's high yield fixed income investments are to provide income to the State, diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds

and other types of index funds. The guidelines in this section apply to all active high yield fixed income managers.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.
- ii. Duration must not exceed + 2 years of the Bloomberg Barclays U.S. Corporate High Yield Index.
- iii. Average portfolio credit quality must be at least B or equivalent.
- iv. Minimum issue credit rating at the time of purchase shall be:
  - a. CCC- or equivalent for individual securities
  - b. Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**l) Bank Loans.** The objectives of the State's bank loans investments are to provide income to the State, diversification of the State's fixed income portfolios, yield enhancement, protection against rising interest rates and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active bank loan managers.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.
- ii. Duration must not exceed + 1 year of the S&P/LSTA Leveraged Loan Index.
- iii. Average portfolio credit quality must be at least B or equivalent.
- iv. Minimum issue credit rating at the time of purchase shall be:
  - a) CCC or equivalent for individual securities; and
  - b) Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**m) Emerging Markets Debt (Local Currency) Fixed Income.** The objectives of the State's emerging markets debt fixed income investments are to provide diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active emerging markets debt (local currency) fixed income managers.

- i. Obligations of individual sovereign/quasi-sovereign issuers are subject to a 25% per issuer limit.
- ii. The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.
- iii. Duration must be +/- 20% of the index.
- iv. Average portfolio credit quality must be BB+ or equivalent or better.
- v. Minimum Issue Credit Rating at the time of purchase shall be:
  - a. A1 or equivalent for commercial paper;
  - b. B- or equivalent for individual securities

- c. Where a security is not rated at the issue level, the issuer rating shall be relied upon.
- vi. Standalone private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.
- n) **U.S. Treasury Inflation-Protected Securities ("TIPS").** The objectives of the State's U.S. treasury inflation-protected fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, protection against increases in the rate of inflation and consistent returns as measured by the appropriate index. The funds shall be passively managed.
  - i. Performance on a gross-of-fees basis should track the index with minimal tracking error over a reasonable time period.
- o) **Cash and Extended Cash.** The objectives of the Cash and Extended Cash investments are to provide liquidity, safety of principal, and stable income consistent with the maturity and risk parameters of each cash pool.
  - i. A maximum of 5% of total assets may be placed in securities of one issuer except for government securities.
  - ii. Investment in any single issuer must not exceed 5% of the outstanding issues of that issuer.
  - iii. Cash Portfolio. The portfolio's weighted average maturity shall not exceed 90 days. All securities shall have a maximum maturity of 365 days. The maximum average cash flow weighted duration of the portfolio shall not exceed 90 days. The market value of the portfolio shall remain within +/- 0.5% of 1.0% of amortized cost.
  - iv. Extended Cash Portfolio. Maximum average cash flow weighted duration is not to exceed 3 years. Individual securities must not exceed a cash flow weighted duration of 5 years. The extended portion of the cash portion of the account may not exceed 35% of the market value of the portfolio at the time of purchase.

Currency must be in U.S. dollar denomination only. The cash portfolios shall seek to be invested fully as of the close of business on each day. The account may only purchase securities issued or guaranteed by a corporation or other entity organized under the laws of a State of the United States and only securities of this type referred to in the first clause of Section 3(a)(2) of the Securities Act of 1933 as amended.

The cash portfolio and extended cash portfolios' permissible investments are the following securities:

- a. Asset-Backed Securities: Limited to automobile receivables, credit receivables, collateralized mortgage obligations ("CMO") or pass-throughs, the collateral for which is securities issued by GNMA, FNMA, FHLMC or notes fully guaranteed as to principal and interest by the Small Business Administration;
- b. Master Notes;
- c. Bank Notes;
- d. Medium Term Notes;
- e. Bankers' Acceptances;
- f. Municipal Bonds;
- g. Certificates of Deposit;
- h. Municipal Notes;
- i. Commercial Paper, including unregistered Promissory Notes;
- j. Called for Commercial Paper;



- k. Repurchase Agreements (including term repurchase agreements)-Permitted collateral: **government securities**. The minimum collateral required is 102%;
- l. Corporate Bonds;
- m. Time Deposits - Restricted to obligations of financial institutions approved by Wyoming's Board of Deposits;
- n. Corporate Notes;
- o. U.S. Government Securities;
- p. Floating Rate Notes including Obligations of the U.S. Treasury and Obligations of U.S. Government Agencies;
- q. Floating rate Certificates of Deposit;
- r. **Guaranteed Investment Contracts ("GICs") or synthetic GICs; and**
- s. Instruments bearing floating or fixed interest rates.

Commercial paper must be rated A1+ or P1 by at least one Nationally Registered Statistical Rating Organization (**split ratings being permitted**). The minimum long-term rating for bonds and notes is BBB/Baa2. Such ratings, however, may decline thereafter without per se requiring the sale of the security. GICs must be rated AAA or equivalent by Moody's, Standard and Poor's or Fitch, or rated A+ by A.M. Best. A security without its own rating will be considered to be rated if its user's comparable securities are rated. In addition, long term ratings shall be used only if the security is not rated and no security of the same issuer that is comparable in priority with such security is rated.

**d)p) Private Equity-Managers.** The objectives of the State's private equity investments, which are considered to be **Alternative Investments**alternative investments, are to provide the State with total return, capital appreciation, portfolio diversification, protection against inflation risk and competitive~~consistent~~ returns as measured by the appropriate index. The funds shall be actively managed. The State may employ diversification by sub-asset class (private equity vs. venture capital vs. special situations) and investment style (early vs. late stage, mid-market vs. large cap market).

- i. At the time of purchase, a maximum of 25% of the value of any private equity partnership may be invested in any one company or security issued by any one company. An exception may be made when a special purpose vehicle is set up as part of an overall pool where the overall pool satisfies this requirement.
- ii. At the time of purchase, each investment vehicle (e.g. limited partnership) shall, when fully drawn, invest directly or indirectly in a minimum of 12 underlying companies.

**q) Absolute Return.** The objectives of the State's absolute return investments, which are considered to be alternative investments, are to provide the State with total return, portfolio diversification, certain defensive capacities, capital appreciation, moderate levels of volatility with low correlation to traditional financial assets and consistent returns measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active absolute return managers.

- i. The portfolio shall be diversified across underlying hedge fund strategies and hedge fund managers.

**e)r) Real Estate-Managers.** The objectives of the State's real estate investments, which are considered to be **Alternative Investments**alternative investments, are to provide the State with portfolio diversification, total return, including income and capital appreciation, as well as protection against inflation risk and consistent returns as measured by the appropriate ~~real estate~~ index.

- i. The core portfolio shall consist of well-leased, high quality, income producing institutional properties.
- ii. The core portfolio shall be adequately diversified by geographical region, as well as by property type.
- iii. The non-core portfolio may consist of properties of varying quality, investment size, property type and geographic concentration.

~~f)a) **Absolute Return Managers.**—The objectives of the State's absolute return investments, which are considered to be Alternative Investments, are to provide the State with total return, capital appreciation, moderate levels of volatility with low correlation to traditional financial assets and consistent returns measured by the appropriate index.~~

- ~~i. The portfolio shall be diversified across underlying hedge fund strategies and hedge fund managers.~~

~~g) **Core Fixed Income Managers.**—The objectives of the State's core fixed income investments are to provide stable income to the State, yield enhancement and diversification of the State's fixed income portfolios, safety of principal and consistent returns above the fixed income market as measured by the Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Aggregate Intermediate Index, or other short term diversified US investment grade index as selected for each manager by the State Treasurer's Office. The funds will be actively managed.~~

- ~~i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government sponsored corporations and agencies are eligible without limit.~~
- ~~ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.~~
- ~~iii. Non U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.~~
- ~~iv. Private mortgage backed and asset backed securities are limited to 10% of the portfolio market value.~~
- ~~v. Commercial mortgage backed securities are permitted but shall comprise no more than 10% of the portfolio market value.~~
- ~~vi. Commercial paper of all issuers shall not exceed \$500,000,000.~~
- ~~vii. Duration must fall in the range of +/- 20% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Index by more than 20%.~~
- ~~viii. Minimum Issue Credit Rating at time of purchase shall be:
 
  - ~~a. A1 or equivalent for commercial paper;~~
  - ~~b. BBB or equivalent for corporate bonds, Mortgage Backed Securities, Commercial Mortgage Backed Securities, Asset Backed Securities, Non U.S. Dollar Denominated Securities and Dollar Denominated Emerging Market Securities.~~~~
- ~~ix.xi. Average portfolio credit quality must be at least A or equivalent.~~
- ~~x. Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.~~
- ~~xi. A minimum number of 25 securities shall be held.~~
- ~~xii.vii. Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.~~
- ~~xiii. Private placements, including 144A securities are not permitted.~~

~~h) **Credit Fixed Income Managers.**—The objectives of the State's credit fixed income investments are to provide stable income to the State, yield enhancement and diversification of the State's fixed income portfolios, safety of principal, and consistent returns above the State's custom benchmark as measured by 20% Barclays U.S. Credit~~



Index, 20% BofA Merrill Lynch U.S. High Yield Master II Constrained Index and 60% S&P/LSTA Leveraged Loan Index. The funds will be actively managed and the investment managers shall have the flexibility to tactically allocate around the strategic targets.

- i. ~~Duration must not exceed + 2 years of the Custom Credit Index.~~
- ~~ii.iii. Minimum issue credit rating for commercial paper will be A1 or equivalent.~~
- ~~iii.iv. Average portfolio credit quality must be at least B or equivalent.~~
- ~~iv. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.~~
- ~~v. Standalone purchases of private placements, including 144A securities, are not permitted.~~
- Investment Grade Credit Sleeve:**
- ~~vi. Minimum Issue Credit Rating at the time of purchase shall be:
  - a. ~~BBB or equivalent for individual securities~~~~
- ~~vii. Between 10% and 60% of the total portfolio shall be invested in investment grade rated securities.~~
- High Yield Sleeve:**
- ~~viii. Minimum Issue Credit Rating at the time of purchase shall be:
  - a. ~~CCC or equivalent for individual securities~~
  - b. ~~Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.~~~~
- ~~ix. A maximum of 40% of the total portfolio shall be invested in high yield bonds.~~
- Bank Loan Sleeve:**
- ~~x. Minimum Issue Credit Rating at the time of purchase shall be:
  - a. ~~CCC or equivalent for individual securities~~
  - b. ~~Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.~~~~
- ~~xi. Between 40% and 80% of the total portfolio shall be invested in bank loans.~~

**i)s) Opportunistic Fixed Income Managers.** From time to time, investments may be made in opportunistic ~~fixed income~~ investments. The objective of such investments by the State shall be to ~~return enhancement~~ enhance returns through opportunities that present themselves due to stressed conditions in ~~fixed income~~ the markets. The guidelines for such investments shall be determined by the investment management agreement or appropriate offering documents in the case of commingled or partnership investments.

**j) Emerging Markets Debt (Local Currency) Fixed Income Managers.** The objectives of the State's emerging market fixed income investments are to provide yield enhancement and diversification of the State's fixed income portfolios, and consistent returns above the emerging fixed income market as measured by the JP Morgan GBI-EM Global Diversified Un-hedged Index.

- i. ~~Duration must be +/- 20% of the index.~~
- ii. ~~Minimum Issue Credit Rating at the time of purchase shall be:
  - a. ~~A1 or equivalent for commercial paper;~~
  - b. ~~B or equivalent for individual securities~~
  - c. ~~Where a security is not rated at the issue level, the issuer rating shall be relied upon.~~~~
- iii. ~~Average portfolio credit quality must be BB+ or equivalent or better.~~
- iv. ~~Obligations of individual sovereign/quasi-sovereign issuers are subject to a 25% per issuer limit.~~
- v. ~~Private placements, including 144A securities are not permitted.~~

~~vi. The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.~~

~~k)a) **U.S. Treasury Inflation Protected Securities ("TIPS").** The objectives of the State's U.S. treasury inflation protected fixed income investments are to provide stable income to the State, diversification of the State's fixed income portfolios, safety of principal, protection against increases in the rate of inflation, and returns consistent with the U.S. treasury inflation fixed income market as measured by the Barclays U.S. TIPS Index (Series B). The funds shall be passively managed.~~

~~i. Performance on a gross of fees basis should track the index with minimal tracking error over a reasonable time period.~~

~~l) **Internally Managed Fixed Income Portfolio.** The objectives of the State's internally managed fixed income investments are to provide stable income to the State, diversification of the State's fixed income portfolios, safety of principal, liquidity as needed, and returns consistent with the government fixed income market as measured by the Barclays U.S. Intermediate Government Bond Index.~~

~~i. Duration should not exceed + 2 years of the index.~~

~~ii. The emphasis of the internal portfolio is on safety and liquidity, and as such should primarily invest in U.S. Government securities such as Treasuries and Agencies.~~

~~iii. Non U.S. Government securities are allowed, up to a maximum of 20% of the portfolio.~~

~~m) **Internally Managed U.S. Fixed Income Indexed Portfolio.** The objectives of the State's internally managed fixed income index investments are to provide stable income to the State, yield enhancement and diversification of the State's fixed income portfolios, safety of principal and consistent returns as measured by the Barclay U.S. Aggregate Bond Index. The portfolio will primarily invest in ETFs, mutual funds, and other indexed investment vehicles.~~

~~n) **Cash and Extended Cash Managers.**~~

~~i. A maximum of 5% of total assets may be placed in securities of one issuer except for government securities.~~

~~ii. Investment in any single issuer must not exceed 5% of the outstanding issues of that issuer.~~

## **SECTION 12. RISK MANAGEMENT**

**12.1 Issuer or Secondary Source Failure.** The State Treasurer shall seek to control the risk of loss due to the failure of a security issuer or secondary source. Such risk shall be controlled by constructing investment portfolios using the prudent investor rule Prudent Investor Rule, by ensuring adequate portfolio diversification, by collateralization as required by law and by statutory guidelines.

**12.2 Policy Exceptions.** Investment managers are responsible for managing the assets under their care on behalf of the State in accordance with the guidelines established in this investment policy. From time to time, it is possible that market conditions or other events outside the control of the investment manager may cause portfolios for various reasons to fall out of compliance. It is generally expected that investment managers will review any events outside their control that cause the portfolio to fall out of compliance with the best interest of the State's portfolio in mind, and provide a written recommended course of action to the State Treasurer's Office. The State Treasurer's Office shall review these written requests and may grant an

exception to the investment policy guidelines if it is believed to be in the best interest of the portfolio. No investment manager is allowed to make new security purchases that would cause the portfolio to fall out of compliance or further out of compliance than it is at the time of purchase. All investment policy exceptions that are granted shall be documented in a quarterly investment policy compliance review, which shall be part of the quarterly investment report provided to the State Loan and Investment Board~~Board~~. In addition, investment managers will be given an exception to compliance with these investment policy guidelines when commencing the implementation of a strategy or while closing a strategy but only for a period of time as determined by the State Treasurer.

### **SECTION 13. SAFEKEEPING**

The State Treasurer shall contract with an authorized safekeeping agent for safekeeping securities owned by the State as part of its investment portfolio or held as collateral to secure certificates of deposits or repurchase agreements. All securities transactions shall be conducted on a delivery versus payment basis to the State Treasurer's safekeeping bank or to the State Treasurer's Office. The State Treasurer's Office or custodian shall have custody of all securities purchased or held and all evidence of deposits and investments of public funds.

### **SECTION 14. VOTING OF PROXIES**

The Board allows investment managers to vote proxies with the ~~parameter~~parameters that (i) the investment managers keep the State Treasurer's Office apprised of and annually provide their general proxy policy to the State Treasurer's Office and (ii) the investment managers notify the State Treasurer's Office of controversial ~~proxies~~matters which may be subject to proxy voting. Investment managers are expected to vote proxies in a way that is generally consistent with the whole of this ~~document~~investment policy and in accordance with the best interests of Wyoming's portfolio.

### **SECTION 15. SECURITIES LENDING**

As part of this investment strategy, the State Treasurer may retain the services of a custodial bank or an independent securities lending agent to supervise a program of securities lending in exchange for a fee or other consideration. Supervision of the program shall include:

- a) Procedures to review the creditworthiness of all borrowers;
  - b) Requirements for full collateralization of all loans; and
  - c) Other methods and procedures required by the Board for securing the lending program.
- (W.S. 9-4-717(d) Securities Lending)

### **SECTION 16. COMMISSION RECAPTURE PROGRAM**

The State Treasurer's Office shall monitor the commission recapture and discount brokerage programs to insure that investment managers provide the best effort to meet their commission recapture guidelines (i.e., requested amount of commission recaptured). The State Treasurer shall issue directed brokerage letters (limited to the commission recapture program) to the investment managers on an annual basis. In determining the amount to be directed, consideration should be given to the type of investment manager (i.e., small capitalization investment managers may not be able to direct as much as large capitalization managers) and the amount of external research the investment manager buys. The quality of execution should never be jeopardized and ~~the State Treasurer's Office should periodically monitor the quality of execution~~investment managers are achieving through a trading cost evaluation survey will be monitored for performance net of fees relative to the appropriate index.

## **SECTION 17. LIQUIDITY**

Liquidity shall be achieved by investing in securities with active secondary markets with the exception of ~~Alternative Investments~~alternative investments. A security may be liquidated to meet unanticipated cash requirements, to redeploy cash into other investments expected to outperform current holdings, or to otherwise adjust the portfolio. Sufficient liquidity must be maintained to ensure payment to the State of the interest received from investments and any capital gains which occur from trading in the portfolio. This liquidity is the responsibility of the investment manager.

## **SECTION 18. TRADES AND EXCHANGES**

**18.1 Allowance to Sell or Exchange Securities.** Investment managers and the State Treasurer may sell or exchange securities in the course of daily management of specific funds. Such trades may be executed to raise cash, to shift maturity, to change asset mix, to enhance yield and to improve quality. The goal of all such trades is to maximize portfolio performance while minimizing risk.

- a) **Security Swaps.** The State Treasurer and all investment managers will take advantage of security swap opportunities to improve portfolio yield. A swap which improves portfolio yield may be selected even if the transaction results in an accounting loss but only if such transaction complies with the requirements of W.S. 9-4-717(c).
- b) **Marking to Market.** To account for market fluctuations and volatility, the State Treasurer's Office or its agent (independent pricing agent) shall mark to market all securities at least monthly to the extent possible with exceptions made for ~~Alternative Investments~~alternative investments where values are reflected as available. If a significant market event takes place during the month that impacts the value of the portfolio, the State Treasurer's Office or its agent shall mark the portfolio to market to determine the impact on the portfolio. ~~State officials responsible for investment portfolio reporting should determine the~~The market value of all securities in the portfolio ~~should be determined~~ on at least a quarterly basis to the extent possible with exceptions made for ~~Alternative Investments~~alternative investments where values are reflected as available. These values should be obtained from a reputable and independent source where possible with some exceptions made for ~~Alternative Investments~~alternative investments and a report made to the Board at least quarterly by the State's Consultant. It is recommended that the report include the market value, book value and unrealized gain or loss of the securities in the portfolio.

**18.2 Best Price and Execution.** Transactions shall be executed on the basis of "best price and execution" for the sole benefit of the State and other limited partners in the case of investments made through limited partnership vehicles. Any violation of these guidelines is to be corrected immediately upon discovery and reported to the State Treasurer and the State's Consultant. A realized loss to the State resulting from a violation of these guidelines shall require reimbursement to the State. Other remedies may be sought if investments are made through limited partnership vehicles.

## **SECTION 19. PROCEDURES FOR SELECTING AND REVIEWING INVESTMENT MANAGERS AND ALTERNATIVE FUND INVESTMENTS**

**19.1 Investment Manager Review Process.** When an investment manager is to be hired for the State, the State Treasurer shall conduct all necessary and appropriate due diligence including issuing a request for proposal and working with the Consultant or, if appropriate, other

suitable consultants. The State Treasurer will confer with other members of the Board and familiarize them with the extent of that due diligence. The State Treasurer will present a finalist or finalists to the Board at a public meeting. The finalist or finalists shall make an oral presentation to the board at the meeting before their selection. Evaluation factors shall include 1-year, 3-year, 5-year and if available 10-year performance records, the associated risks taken to achieve the returns, the quality and stability of the investment personnel of each ~~company~~investment firm, adherence to philosophy and style, and the fees charged by each ~~company~~investment firm. The State Treasurer shall only consider investment firms that have a verifiable 5-year Chartered Financial Analyst Institute compliant track record with respect to the type of investments regarding which the manager will provide services or investment managers employed by an organization and chartered bank trust company with trust assets in excess of \$1,000,000,000. An exception may be made for ~~Alternative Investments~~alternative investments.

**19.2 Investment Manager Selection Process.** The Board shall make a selection based upon the interview and the State Treasurer shall submit a contract for review by the Attorney General. The contract shall provide for its termination by the State with 30 ~~day~~days notice to the investment manager. An exception may be made for ~~Alternative Investments~~alternative investments.

**19.3 Alternative Investments.** When an ~~Alternative Investment~~alternative investment is to be made, the State Treasurer's Office shall provide the Board with a summary of all the material terms and conditions of the documents governing the investment. Pursuant to W.S. 9-4-715(c), the State Treasurer shall obtain the Board's ~~approve~~approval of all material terms of the instruments governing the ~~Alternative Investment~~alternative investment prior to the investment of funds. In addition, after such ~~Alternative Investment~~alternative investment is made, any material adverse change to the terms of the instruments governing the investment must be approved by the Board.

**19.4 Performance Monitoring.** Each investment manager for the State shall, at least quarterly, provide a report to the State Treasurer describing the investment manager's performance relative to mutually agreed upon industry indices and reflecting all brokerage fees and other fees or expenses paid by or fees earned by the investment manager, which are paid by the State under the contract with such investment manager. The State Treasurer shall monitor monthly statements and receive quarterly performance reports from the State's Consultant. The State's Consultant shall monitor at least quarterly the State's investment record for each investment manager under contract to determine whether or not that investment manager is performing up to the standard required by the benchmark of performance specified in the investment manager's contract and report to the Board. If at any time the standard required is not being met, the State Treasurer shall report to the Board and provide a recommendation. The Board ~~shall~~may then determine ~~what~~an appropriate course of action ~~will be taken by the State Treasurer~~.

**19.5 Policy Monitoring.** Each investment manager shall file a quarterly investment policy compliance report with the State's Consultant.

**19.6 Manager Alerts.** Investment managers for the State are required to apprise the Board and to keep the State Treasurer's Office and the State's Consultant informed of any material changes in their respective firms (i.e., change in personnel, ownership and policy).

**19.7 Other Considerations.** In addition to achieving benchmark expectations as described in Section 20, investment managers for the State shall be reviewed for consistency of style and client service.

**19.8 Termination.** ~~The decision Pursuant to W.S. 9-4-718(a)(iv), the Board may terminate the contract with an investment manager for the State shall be by a majority vote of the Board (W.S. 9-4-718(a)(iv)).~~ The State Treasurer may recommend the termination of an investment manager to the Board.

**19.9 Transition Management.** The State Treasurer may retain the services of a firm providing transition management ~~products~~services to effect transitions from legacy active external investment managers to target successor investment managers. Total transition charges shall be considered in the selection and evaluation of these vendors including both commission (explicit) and market impact (implicit) costs.

## **SECTION 20. SUB-POLICY ON NOMINAL RETURN BENCHMARKS**

Below are the benchmarks for the asset classes listed. Investment performance shall be evaluated against these standards over a full market cycle, approximated by the most recent 5-year period. Actively managed strategies are intended to provide investment performance above the applicable market index, net of fees. Passively managed strategies are intended to provide investment performance consistent with the applicable market index with acceptable levels of tracking error, gross of fees. Where applicable and as indicated below, investment managers for the State shall meet or exceed the top 40<sup>th</sup> percentile of a peer investment manager universe as measured by the State's Consultant, gross of fees.

Asset Class	Market Index, <del>(net of fees</del> (unless <u>passively managed,</u> <u>managed internally or</u> otherwise indicated)	Measurable Peer Universe, (gross of fees (unless otherwise indicated)
All-Cap U.S. Equity	Russell 3000 Index	Yes
<del>Custom Indexed All</del> <u>Small</u> - Cap U.S. Equity	<del>Russell 2000 Index</del> Meet performance of Custom Index comprised of 69% <del>Russell 3000 Index, 24% FTSE RAFI</del> <del>US 1000 Index and 7% MSCI USA</del> <del>Minimum Volatility Index, gross of fees</del>	<del>N/A</del> <u>Yes</u>
<del>Small-Cap U.S. Equity</del>	<del>Russell 2000 Index</del>	<del>Yes</del>
Global Equity	MSCI ACW Index	Yes
International Equity	MSCI ACW Ex US Index	Yes
<del>Internal International Equity</del> <del>ETF Portfolio</del> <u>Preferred Stock</u>	<del>MSCI ACW Ex US</del> <u>S&amp;P U.S. Preferred</u> <del>Stock</del> Index, <del>gross of fees</del>	N/A
<del>Private Equity</del> <u>Asset Class</u>	<del>S&amp;P 500</del> <u>Market</u> Index by 500 basis points, both gross and <del>(net of fees</del> (including underlying fund investment manager fees <u>unless passively managed, managed</u> <u>internally or otherwise indicated)</u>	<del>Yes, net</del> <u>Measurable Peer</u> <u>Universe (gross of fees</u> <u>unless otherwise indicated)</u>
<u>Master Limited Partnerships</u>	<u>S&amp;P MLP Index</u>	<u>N/A</u>
Core <del>Real Estate</del> <u>Fixed</u> <u>Income</u>	<del>NCREIF Fund Index — Open-End</del> <del>Diversified Core Equity (NFI</del> <del>ODCE)</del> <u>Bloomberg Barclays U.S.</u>	Yes, <del>net of fees</del>



	<u>Aggregate Bond Index, or Bloomberg Barclays Intermediate U.S. Aggregate Bond Index</u>	
<del>Non-Core Real Estate</del> <u>Intermediate Government Bond Fixed Income</u>	<del>NCREIF Property Index (NPI) by an appropriate risk premium. This risk premium shall vary depending on investment manager strategy and should be consistent with the objectives stated in the investment manager's offering documents</del> <u>Bloomberg Barclays U.S. Intermediate Government Bond Index</u>	<del>Yes, net of fees</del>
<del>Absolute Return</del> <u>Long Duration Fixed Income</u>	<del>90-Day T-Bills by 500 basis points, net of all fees (including underlying fund investment manager fees)</del> <u>Bloomberg Barclays U.S. Government/Credit: Long Term Bond Index</u>	<del>Yes, net of fees</del>
<u>Low Duration Fixed Income</u>	<del>HFN Fund of Funds Multi-Strategy Index, net of all fees (including underlying fund investment manager fees)</del> <u>Bloomberg Barclays U.S. Government/Credit: 1-3 Year Bond Index</u>	<u>Yes</u>
Convertible Securities	BofA ML All Convertibles <del>All Quality</del> Index <u>(All Qualities)</u>	N/A
<del>Core</del> <u>Credit</u> Fixed Income	<del>Barclays U.S. Aggregate Bond Index</del> <u>Custom Credit Index comprised of 20% Bloomberg Barclays U.S. Credit Index, 20% Bloomberg Barclays U.S. Corporate High Yield Index and 60% S&amp;P/LSTA Leveraged Loan Index</u>	Yes
<u>Investment Grade Credit Fixed Income</u>	<u>Bloomberg Barclays U.S. Credit Index</u>	<u>Yes</u>
<u>High Yield Fixed Income</u>	<u>Bloomberg Barclays U.S. Corporate High Yield Index</u>	<u>Yes</u>
<u>Bank Loans</u>	<u>S&amp;P/LSTA Leveraged Loan Index</u>	<u>Yes</u>
<u>Emerging Markets Debt (Local Currency) Fixed Income</u>	<u>JP Morgan GBI-EM Global Diversified Un-Hedged Index</u>	<u>Yes</u>
<u>U.S. Treasury Inflation-Protected Securities</u>	<u>Bloomberg Barclays U.S. TIPS Index (Series B)</u>	<u>N/A</u>

<b>Asset Class</b>	<b>Market Index, net of fees (unless otherwise indicated)</b>	<b>Measurable Peer Universe, gross of fees (unless otherwise indicated)</b>
Credit Fixed Income	<del>Custom Credit Index comprised of 20% Barclays U.S. Credit Index, 20% BofA ML U.S. High Yield Master II Constrained Index and 60% S&amp;P/LSTA Leveraged Loan Index</del>	Yes
Opportunistic Fixed Income	Custom Opportunistic Index specific to the investment opportunity	N/A
Emerging Markets (Local Currency) Fixed Income	JP Morgan GBI-EM Global Diversified Un-Hedged Index	Yes
U.S. Treasury Inflation Protected Securities ("TIPS")	Barclays U.S. TIPS Index (Series B), gross of fees	N/A
Internal Fixed Income Portfolio	Barclays U.S. Intermediate Government Bond Index	N/A
Internal U.S. Fixed Income Indexed Portfolio	Barclays U.S. Aggregate Bond Index, gross of fees	N/A
Cash	Monitored Repurchase Agreement	N/A
	<del>90-Day</del> BofA ML 3 Mo U.S. T-Bills Bill for cash equivalents allocation	
Extended Cash	<del>Equal-weighted blend of the BofA ML 1-3 Year Agency, 1-3 Year Treasury, and 0-3 Year Mortgage Indices</del>	N/A
<b><u>Asset Class</u></b>	<b><u>Market Index (net of fees unless passively managed, managed internally or otherwise indicated)</u></b>	<b><u>Measurable Peer Universe (gross of fees unless otherwise indicated)</u></b>
<u>Extended Cash</u>	<u>JPMorgan Custom Blended Index: Equal-weighted blend of the BofA ML 1-3 Year Agency, 1-3 Year Treasury, and 0-3 Year Mortgage Indices</u>	<u>N/A</u>
<u>Private Equity</u>	<u>S&amp;P 500 Index by 500 basis points, both gross and net of fees (including underlying fund investment manager fees)</u>	<u>Yes, net of fees</u>
<u>Absolute Return</u>	<u>BofA ML 3 Mo U.S. T-Bill by 300 basis points, net of all fees (including underlying fund investment manager fees)</u>	<u>Yes, net of fees</u>
	<u>HFRI Fund of Funds Composite Index (including underlying fund investment</u>	



	<u>manager fees)</u>	
<u>Core Real Estate</u>	<u>NCREIF – Open-End Diversified Core Equity Index</u>	<u>Yes, net of fees</u>
<u>Non-Core Real Estate</u>	<u>NCREIF Property Index by an appropriate risk premium. This risk premium shall vary depending on investment manager strategy and should be consistent with the objectives stated in the investment manager's offering documents</u>	<u>Yes, net of fees</u>
<u>Opportunistic</u>	<u>Custom opportunistic index specific to the investment opportunity</u>	<u>N/A</u>

## **SECTION 21. LOCAL GOVERNMENT INVESTING**

Permissible investments for the treasurers of any political subdivision, municipality or special district of Wyoming and the various boards of trustees and boards of directors of county hospitals, airports, fairs and other duly constituted boards and commissions (collectively, "Local Government Entities") include those authorized or approved by the Board. (W.S. 9-4-831(a)(xxvii)) Thus, along with the investments already approved by the Legislature in W.S. 9-4-831 (a)(i)-(xxvi), the Board authorizes and approves the following investment for Local Government Entities:

- 1. Corporate Bonds:** Local Government Entities may invest in non-levered investment grade corporate bonds through a separate account arrangement or through a mutual fund or ETF that invests in investment grade corporate bonds but such account or fund must satisfy the following requirements:
  - a) For investment in non-levered investment grade corporate bonds through a separate account arrangement:
    - i. Must be through an investment management agreement with an SEC registered investment advisor, SEC registered investment company, or a bank exempt from registration (the "investment manager" for purposes of this section);
    - ii. Investment manager must agree in writing to act in a fiduciary capacity with regards to the assets of the account;
    - iii. The account must be diversified by issuer, with no more than 5% of account assets invested with a single issuer, with an exception made for obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations;
    - iv. The effective duration of the account can be no greater than the duration of the Bloomberg Barclays U.S. Aggregate Bond Index by more than 0.5 years; and
    - v. Only SEC registered investment grade securities are allowed for purchase.
  - b) For investment in mutual funds or ETFs that invest in investment grade corporate bonds:
    - i. The fund must be registered with the SEC;
    - ii. The fund must be a "diversified" fund as defined by the SEC;
    - iii. At time of purchase, the fund's assets must be invested in investment grade corporate bonds or other securities permitted for Local Government Entities;

- iv. The effective duration of the fund at time of purchase cannot be greater than the Bloomberg Barclays U.S. Aggregate Bond Index by more than 0.5 years at time of purchase;
- v. Average credit quality of the fund must be at least A- or equivalent at time of purchase;
- vi. The net expense ratio of the fund, as defined by the fund's most recent prospectus, cannot be greater than 0.5% annually (50 basis points), and cannot be greater than the fund's category average as defined by a nationally recognized provider of mutual fund data such as Morningstar or Lipper; and
- vii. Shares of the fund must be purchased and sold at the net asset value of the fund. Purchase and sales loads are not allowed.

When approving, acquiring, investing, reinvesting, exchanging, retaining, selling and managing investments in corporate bonds as described above, the treasurers of Local Government Entities, their designees or any other fiduciaries appointed by the treasurers shall exercise the judgment and care of a prudent investor as specified by the Prudent Investor Rule and, effective July 1, 2017, as provided in W.S. 9-4-831(m)(i).

## **SECTION 22. GLOSSARY OF TERMS**

**"Alternative investments"** are investments in nontraditional asset classes or in traditional asset classes which are utilized in a nontraditional strategy.

**"Capital gain"** is the difference between an asset's adjusted purchase price and selling price when the difference is positive. It is a **"Capital loss"** when the difference is negative.

**"Commingled investment"** is an instrument where there is a pooling of securities owned by multiple clients for diversification and cost benefits. With commingled investments, investment managers cannot tailor the portfolio to suit client-specific guidelines.

**"Derivative"** is a contract or security whose value is based on the performance of an underlying financial asset, index, or other investment. The following are common types of derivatives used in the execution of fixed income strategies:

- **Forward** – An agreement which obligates one party to buy and another party to sell a specific security or currency at a specific future date, at a price agreed upon at the time of the initial transaction. Forward contracts are privately negotiated and are not standardized or transferable. Mortgage TBAs ("To Be Announced") and Forward Currency trades are examples of forward transactions.
- **Future** – An agreement to buy or sell a specific amount of a specific security or currency at a specified price and on a specified future date. Futures contracts contain standardized terms, trade on a formal exchange, are regulated by overseeing agencies, and are guaranteed by clearinghouses.
- **Option** – An agreement which conveys the right, but not the obligation, to buy (call option) or sell (put option) a specific security at a stipulated price and within a stated period of time. If the option is not exercised during that time, the money paid for the option is forfeited.
- **Swap** – An agreement between two parties to exchange one set of future cash flows for another based on a specified principal amount. Swaps are utilized as an efficient means of obtaining a desired exposure, which commonly include the exchange of

interest payments, currencies, credit exposure, or specific bond characteristics such as yield, quality, or maturity. Swaps trade over the counter and can be customized in any number of ways.

“Dividend” is a distribution of earnings to shareholders, prorated by class of security and paid in the form of money, stock, scrip, or, rarely, company products or property. The amount is decided by the board of directors.

“Duration” is expressed in years. It is a measure of a bond’s price change with change in yield, and is calculated by averaging the time to each interest and principal payment, weighted by each payment’s present value.

“Earnings” represents money earned from activities such as investing.

“Exchange Traded Fund (“ETF”)” is a marketable security that tracks an index, commodity, bonds, or a basket of assets. ETFs trade on a stock exchange and experience price changes throughout the trading day as they are bought and sold.

“Income” is comprised of interest and dividend payments.

“Interest” represents the cost of using money, expressed as a rate per period of time.

“Investment Advisers Act of 1940” is an Act that regulates investment advisers. With certain exceptions, this Act requires that firms or sole practitioners compensated for advising others about securities investments must register with the SEC and conform to regulations designed to protect investors.

“Investment Company Act of 1940” is an Act that regulates the organization of companies, including mutual funds, that engage primarily in investing, reinvesting, and trading in securities, and whose own securities are offered to the investor. The Act requires these companies to disclose their financial condition and investment policies to investors when stock is initially sold and, subsequently, on a regular basis.

“Margin transaction” is a technique involving buying or selling short securities using money borrowed from a broker. Margin is the collateral that the holder of the position is required to deposit to cover the broker against a potential loss.

“Public Purpose Investment” or “PPI” is an investment either mandated or permitted by the Legislature for the benefit of the State of Wyoming.

“Returns” represent the profit on a securities or capital investment.

“Risk” shall be the measurable possibility of losing or not gaining value.

“Securities Act of 1933” is the Federal law which requires registration of securities and disclosure of financial information for potential investors.

“Short sale” is a transaction where the seller sells a security not owned on the expectation that the market price will fall and the seller will be able to buy the security at a price lower than that at which it was sold.

“Total return” shall be calculated to include all dividend and income as well as realized and unrealized capital appreciation or depreciation.

## **SECTION 23. INDEX DEFINITIONS**

**Bloomberg Barclays Intermediate U.S. Agg Bond:** The **Bloomberg Barclays Intermediate U.S. Aggregate Bond Index** covers the U.S. dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities: U.S. Treasury and agency bonds, domestic corporate debt, and mortgage-backed securities, with maturities from 1 up to (but not including) 10 years for all sectors except for securitized (MBS, ABS, CMBS), which does not have a maximum weighted average maturity (MBS) or remaining average life (ABS, CMBS) constraint.

**Bloomberg Barclays U.S. Agg Bond:** The **Bloomberg Barclays U.S. Aggregate Bond Index** covers the U.S. dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities: U.S. Treasury and agency bonds, domestic corporate debt, and mortgage-backed securities.

**Bloomberg Barclays U.S. Corporate High Yield:** The **Bloomberg Barclays U.S. Corporate High Yield Index** consists of U.S. dollar-denominated, below investment-grade rated corporate debt publicly issued in the U.S. domestic market.

**Bloomberg Barclays U.S. Credit:** The **Bloomberg Barclays U.S. Credit Index** covers publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements.

**Bloomberg Barclays U.S. Government/Credit: 1-3 Year Bond:** The **Bloomberg Barclays U.S. Government/Credit: 1-3 Year Bond Index** covers all medium and larger issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between one and three years and are publicly issued.

**Bloomberg Barclays U.S. Government/Credit: Long Term Bond:** The **Bloomberg Barclays U.S. Government/Credit: Long Term Bond Index** covers the non-securitized component of the US Aggregate Index, with maturities of 10 years or more. It includes investment grade, US dollar-denominated, fixed-rate Treasuries, government-related and corporate securities.

**Bloomberg Barclays U.S. Intermediate Gov't Bond:** The **Bloomberg Barclays U.S. Intermediate Government Bond Index** covers public U.S. government obligations with remaining maturities from one up to (but not including) ten years.

**Bloomberg Barclays U.S. TIPS:** The **Bloomberg Barclays U.S. Treasury: U.S. TIPS Index** is an unmanaged index that consists of inflation-protected securities issued by the U.S. Treasury.

**BofA ML 3 Mo U.S. T-Bill:** The **BofA Merrill Lynch 3-Month U.S. T-Bill Index** consists of newly issued 90-day Treasury bills.

**BofA ML All Convertibles:** The **BofA Merrill Lynch All Convertibles Index (All Qualities)** is a market capitalization-weighted index of domestic corporate convertible securities that are convertible to common stock.

**Consumer Price Index:** The **Consumer Price Index** ("CPI") is a widely used measure of inflation and measures changes in the prices paid by urban consumers for a representative basket of goods and services in the U.S.

**HFRI FoF Composite Index:** The **HFRI FoF (Fund of Funds) Composite Index** is an equal-weighted index created by Hedge Fund Research that includes both domestic and offshore funds of hedge funds.

**JP Morgan Custom Blended Index:** The **JP Morgan Blended Index** consists of an equal-weighted allocation to the BofA ML 1-3 Year U.S. Treasury Index, BofA ML 1-3 Year Agencies Index, and BofA ML 0-3 Year Weighted Average Life Mortgage Index.

**JP Morgan GBI-EM Global Diversified Un-hedged:** The **JP Morgan GBI-EM Global Diversified Un-hedged Index** is a global emerging markets index that consists of regularly traded, liquid fixed-rate, domestic currency government bonds.

**MSCI ACW:** The **MSCI ACW Index** is designed to measure equity market performance in global developed and emerging markets. The 23 underlying developed countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The 23 emerging market countries are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.

**MSCI ACW Ex U.S.:** The **MSCI ACW (All Country World Index) Ex U.S. Index** is designed to measure equity market performance in global developed and emerging markets, excluding the US. The 22 underlying developed countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The 23 emerging market countries are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.

**NCREIF ODCE:** The **NCREIF ODCE (Open End Diversified Core) Index** is an index of investment returns reporting on both a historical and current basis the results of 16 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NCREIF ODCE Index is capitalization-weighted and performance is time-weighted.

**NCREIF Property:** The **NCREIF Property Index** prepared by the National Council of Real Estate Investment Fiduciaries is a quarterly time series composite return measure for over 6,000 individual commercial real estate properties acquired in the private market for investment purposes. Total performance represents returns from appreciation and income, and includes multi-family, office, retail, and industrial properties.

**Russell 2000:** The **Russell 2000 Index** measures the performance of the small-cap segment of the U.S. equity market. It includes approximately 2000 of the smallest securities by market cap from the Russell 3000 Index.

**Russell 3000:** The **Russell 3000 Index** is a market-capitalization weighted index of 3,000 widely held equity securities designed to measure performance of the entire U.S. stock market.

**S&P 500:** The **S&P 500 Index (Cap Wtd)** is a commonly recognized, market-capitalization weighted index of 500 widely held equity securities designed to measure broad U.S. equity performance.

**S&P MLP:** The **S&P MLP Index** is a float-adjusted, cap-weighted index of energy MLPs and publicly traded limited liability companies, which have a similar legal structure to MLPs and share the same tax benefits. Constituents must have a minimum float-adjusted market cap of USD 300 million.

**S&P U.S. Preferred Stock:** The **S&P U.S. Preferred Stock Index** covers the US market of capital stock that pays dividends at a specified rate and has a preference over common stock in the payment of dividends and the liquidation of assets.

**S&P/LSTA Leveraged Loan:** The **S&P/LSTA Leveraged Loan Index** reflects the market-weighted performance of institutional leveraged loans in the U.S. loan market.

## **APPENDICES. SUB-POLICES ON FUNDS**

### **21.1 — Permanent Funds —**

#### **APPENDIX A. Permanent Mineral Land Trust Fund, Common School Permanent Land Fund, Permanent Land Fund, University Permanent Land Fund, Hathaway Scholarship Fund and Higher Education Endowment**

##### **Fund**

- 1. Fund Descriptions Description.** This sub-policy applies to the Permanent Funds of the State Loan and Investment Board Mineral Trust Fund (the "PMTF") administered by the State Treasurer. These funds dispense income and capital gains.
- 1. Philosophy and Investment Strategy.** ~~The~~ The corpus of the ~~Permanent Funds~~ PMTF must be held inviolate and cannot be spent but only invested for income and capital gains. The fund dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the ~~Funds~~ PMTF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.  
Permanent Mineral Trust Fund. ~~The Wyoming State Legislature has allocated, at times, a large portion of it to PPIs.~~
- 3. History and Purpose.** The PMTF was established by a Constitutional amendment passed in 1974 and amended in 1996. It is funded by a constitutionally guaranteed 1.5% severance tax on minerals produced in Wyoming. It was intended to set aside a portion of the revenue derived from the production of the State's minerals to benefit future generations. All income from investments is deposited in the general fund on an annual basis. The Legislature has included capital gains in addition to interest and dividends in its definition of income. A PMTF reserve account was created in 2002 in order to provide for a more predictable return outlined in a specified spending policy.
- a) 4. Other Considerations.** The Legislature has prescribed conditions and terms under which monies in the fund can be loaned to political subdivisions of the State and has allocated, at times, portions of the PMTF to fund PPIs. Therefore, only the remaining portion is available for discretionary investments by the State Treasurer's Office. The ~~fund~~ PMTF must be managed to allow for an extensive range of investment maturities that provide for funds availability for PPIs as they come into existence as mandated by the Legislature. ~~These funds are~~ The PMTF is to be invested for the long-term to produce a higher return ~~without the cash flow or PPIs.~~
- b) Common School Permanent Land Fund.** ~~The Common School Permanent Land Fund cannot be spent but only invested for income and capital gains. There is a requirement for liquidity in this pool.~~
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer's Office. Liquidity must be maintained to move income and capital gains generated during the year out of the PMTF.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the PMTF to avoid a concentration of any single security type.



**7. Risk.** The PMTF should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the PMTF can reflect a more long-term oriented approach and a risk profile commensurate with its long-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.

**8. Return Expectations.** The long-term return expectations for the PMTF shall be 300 basis points above inflation, as measured by the Consumer Price Index (the "CPI").

**9. Spending Policy.** The spending policy for the PMTF set by the Legislature is 5% of the trailing 5-year average market value of the PMTF, calculated on the first day of the fiscal year. (Commencing fiscal year 2021, the Legislature reduced the spending policy to 4.75% of the trailing 5-year average market value of the PMTF and commencing fiscal year 2022 and thereafter, the Legislature reduced the spending policy to 4.5% of the trailing 5-year average market value of the PMTF.) Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the general fund to the PMTF reserve account. Through June 30, 2017, when the PMTF reserve account reaches a balance that exceeds 90% of the current fiscal year's spending policy, the excess funds shall be transferred from the PMTF reserve account to the PMTF corpus. Commencing July 1, 2017, the balance must exceed 150% before transferring any excess funds to the PMTF corpus. It is through this mechanism that the PMTF is partially insulated against inflation.

**3.10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to a common stock and equities cap. The target asset allocations are as follows:

	Permanent Mineral Trust Fund <u>Min</u>	Common School Permanent Land Fund <u>Long-Term Target</u>	Permanent Land Fund <u>Max</u>	University Permanent Land Fund	Hathaway Scholarship Fund	Higher Education Endowment Fund
All-Cap U.S. <u>Broad US</u> Equity	15.1% <u>5.00</u>	15.1% <u>10.00</u>	15.1% <u>00</u>	15.1%	14.9%	14.9%
Passively Managed	11.5%	11.5%	11.5%	11.5%	11.3%	11.3%
Actively Managed	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
Small Cap U.S. <u>US</u> Equity		1.3% <u>50</u>	1.3% <u>00</u>	1.3% <u>4.50</u>	1.3%	1.3%
Global Equity	3.1%	3.1%	3.1%	3.1%	3.0%	3.0%
Broad International Equity	11.5% <u>6.50</u>	11.5% <u>13.00</u>	11.5% <u>19.50</u>	11.5%	11.2%	11.2%
MLPs	2.25	4.50		6.75		
Private Equity	4.0% <u>00</u>	4.0% <u>8.00</u>	4.0% <u>12.00</u>	4.0%	N/A	N/A
Core Real Estate	7.5% <u>3.00</u>	7.5% <u>6.00</u>	7.5% <u>9.00</u>	7.5%	7.3%	7.3%
Absolute Return	7.5%	7.5%	7.5%	7.5%	7.3%	7.3%
Convertibles <u>Non-Core Real Estate</u>	2.0% <u>00</u>	2.0% <u>4.00</u>	2.0% <u>6.00</u>	2.0%	2.0%	2.0%
Diversified Hedge Funds	3.75	7.50		11.25		
Int. Duration Fixed Income <sup>±</sup>	45.0% <u>14.50</u>	45.0% <u>29.00</u>	43.0% <u>50</u>	43.0%	48.0%	48.0%
Core Bank Loans	31.4% <u>2.50</u>	31.4% <u>5.00</u>	30.1% <u>7.50</u>	30.1%	33.7%	33.7%
Credit	4.5%	4.5%	4.3%	4.3%	4.8%	4.8%
Opportunistic	1.4%	1.4%	1.3%	1.3%	1.4%	1.4%
EMD <u>Emerging Markets Debt (Local)</u>	2.3% <u>50</u>	2.3% <u>5.00</u>	2.2% <u>7.50</u>	2.2%	2.4%	2.4%

TIPS		<del>3.6%</del> <u>2.50</u>	<del>3.6%</del> <u>5.00</u>	<del>3.4%</del> <u>7.50</u>	<del>3.4%</del> 3.8% 3.8%
Internal Portfolio	1.8%	1.8%	1.7%	1.7%	1.9% 1.9%
Cash Equivalents		<del>3.0%</del> <u>.00</u>	<del>3.0%</del> <u>.00</u>	<del>5.0%</del> <u>.00</u>	5.0% 5.0% 5.0%

\*The ~~total Fixed Income asset~~ allocation is ~~reduced by Public Purpose Investments~~implemented and applies to the remainder of the PMTF after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the ~~Funds~~fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the ~~funds~~PMTF. It is also understood that the strategic allocation to alternative ~~assets~~investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the PMTF up to a maximum of 5% measured at the time of commitment.

## **APPENDIX B. Common School Permanent Land Fund**

- 1. Fund Description.** This sub-policy applies to the Common School Permanent Land Fund (the “CSPLF”) administered by the State Treasurer. The corpus of the CSPLF is funded from mineral royalties, leases, fees, permits, and other revenue generated from state lands and must be held inviolate. The corpus of the CSPLF cannot be spent but only invested for income and capital gains. The CSPLF dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the CSPLF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation, income generation and liquidity are important secondary goals.
- 3. History and Purpose.** The CSPLF was established at Statehood and was memorialized in the Act of Admission. It was intended to “be used as a permanent fund, the interest of which only shall be expended for the support of the common schools.” Act of July 10, 1890, ch. 664, 26 Stat. 222 (1890). Its income is deposited as prescribed by statute. A CSPLF reserve account was created in 2002 in order to provide for a more predictable return outlined in a specified spending policy.
- 4. Other Considerations.** The Legislature may prescribe conditions and terms under which monies from the CSPLF can be loaned to political subdivisions of the State and has allocated, at times, portions of the CSPLF for specific purposes. Therefore, only the remaining portions are available for discretionary investments by the State Treasurer’s Office. The CSPLF must be managed to allow for an extensive range of investment maturities. The CSPLF is to be invested for the long-term to produce a higher return.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the CSPLF. Additional liquidity may be needed to meet certain conditions and borrowing authorities prescribed by the Legislature.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the CSPLF to avoid a concentration of any single security type.
- 7. Risk.** The CSPLF should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the CSPLF can reflect a more long-term oriented approach and a risk profile commensurate with its long-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the CSPLF shall be 300 basis points above inflation, as measured by the CPI.
- 9. Spending Policy.** The spending policy for the CSPLF set by the Legislature is 5% of the trailing 5-year average market value of the CSPLF, calculated on the first day of the fiscal year. (Commencing fiscal year 2021, the Legislature reduced the spending policy to 4.75% of the trailing 5-year average market value of the CSPLF and commencing fiscal year 2022 and thereafter, the Legislature reduced the spending policy to 4.5% of the

trailing 5-year average market value of the CSPLF.) Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the general fund to the CSPLF reserve account. Through June 30, 2017, when the CSPLF reserve account reaches a balance that exceeds percent 90% of the current fiscal year's spending policy, the excess funds are transferred from the CSPLF reserve account to the CSPLF corpus. Commencing July 1, 2017, the balance must exceed 150% before transferring any excess funds to the CSPLF corpus. It is through this mechanism that the CSPLF is partially insulated against inflation.

**10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the CSPLF is as follows:

	<u>Min</u>	<u>Long-Term Target</u>	<u>Max</u>
<u>Broad US Equity</u>	<u>4.00</u>	<u>8.00</u>	<u>12.00</u>
<u>Small Cap US Equity</u>	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
<u>Broad International Equity</u>	<u>4.50</u>	<u>9.00</u>	<u>13.50</u>
<u>Preferred Stock</u>	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
<u>MLPs</u>	<u>3.00</u>	<u>6.00</u>	<u>9.00</u>
<u>Core Real Estate</u>	<u>7.50</u>	<u>15.00</u>	<u>22.50</u>
<u>Non-Core Real Estate</u>	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
<u>Int. Duration Fixed Income</u>	<u>18.50</u>	<u>37.00</u>	<u>55.50</u>
<u>Bank Loans</u>	<u>6.00</u>	<u>12.00</u>	<u>18.00</u>
<u>Emerging Markets Debt (Local)</u>	<u>3.50</u>	<u>7.00</u>	<u>10.50</u>
<u>Cash Equivalents</u>	<u>0.00</u>	<u>0.00</u>	<u>5.00</u>

The asset allocation is implemented and applies to the remainder of the CSPLF after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the CSPLF. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the CSPLF. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative asset classes, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the CSPLF up to a maximum of 5% measured at the time of commitment.

## **APPENDIX C. University Permanent Land Fund**

- 1. Fund Description.** This sub-policy applies to the University Permanent Land Fund (the "UPLF") administered by the State Treasurer. The corpus of the UPLF is funded from mineral royalties, leases, fees, permits, and other revenue generated from state lands and must be held inviolate. The corpus of the UPLF cannot be spent but only invested for income and capital gains. This UPLF dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the UPLF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.
- 3. History and Purpose.** The UPLF was established at Statehood and was intended to provide income for the University of Wyoming in perpetuity. Its income is deposited as prescribed by the Act of Admission and statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Other Considerations.** The UPLF is to be invested for the long-term to produce a higher return.
- 4.5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer's Office. Liquidity must be maintained to move income and capital gains generated during the year out of the ~~funds~~-UPLF. Additional liquidity may be needed to meet certain conditions.
- 5. Maturity.** ~~The average duration of the portfolio should be +/- 20% of the duration of the Barclays U.S. Aggregate Bond Index or Custom Index, whichever is applicable.~~
- 6. Diversification.** The State Treasurer shall diversify the securities held in ~~this fund~~the UPLF to avoid a concentration of any single security type.
- 7. Risk.** The ~~funds~~UPLF should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return.~~The common stock cap also prohibits exacerbated levels of risk in the funds; however, the asset allocation for the UPLF can reflect a more long-term oriented approach and a risk profile commensurate with income generation balanced against a longer-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.~~
- 8. Return Expectations.** The long-term return expectations for the UPLF shall be ~~400~~300 basis points above inflation, as measured by the CPI.
- 9. Benchmark.** ~~Custom Index weighting the U.S. equity allocation by the Russell 3000 Index, the global equity allocation by the MSCI ACW Index, the international equity allocation by the MSCI ACW Ex US Index, the private equity allocation (if applicable) by the State's actual private equity investment returns, the core real estate allocation by the NCREIF Fund Index—Open End Diversified Core Equity, the non-core real estate allocation by the NCREIF Property Index, the absolute return allocation by the HFN Fund of Funds Multi-Strategy Index, the convertibles allocation by the BofA ML All Convertibles~~

~~All Quality Index, the fixed income allocation by the Barclays U.S. Aggregate Bond Index, and the State Agency Pool allocation by the State Agency Pool Custom Index as defined in Section 21.4 Sub-Section 9.~~

**9. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the UPLF is as follows:

	<u>Min</u>	<u>Long-Term Target</u>	<u>Max</u>
<u>Broad US Equity</u>	<u>5.00</u>	<u>10.00</u>	<u>15.00</u>
<u>Small Cap US Equity</u>	<u>1.50</u>	<u>3.00</u>	<u>4.50</u>
<u>Broad International Equity</u>	<u>6.50</u>	<u>13.00</u>	<u>19.50</u>
<u>MLPs</u>	<u>2.25</u>	<u>4.50</u>	<u>6.75</u>
<u>Private Equity</u>	<u>4.00</u>	<u>8.00</u>	<u>12.00</u>
<u>Core Real Estate</u>	<u>3.00</u>	<u>6.00</u>	<u>9.00</u>
<u>Non-Core Real Estate</u>	<u>2.00</u>	<u>4.00</u>	<u>6.00</u>
<u>Diversified Hedge Funds</u>	<u>3.75</u>	<u>7.50</u>	<u>11.25</u>
<u>Int. Duration Fixed Income</u>	<u>14.50</u>	<u>29.00</u>	<u>43.50</u>
<u>Bank Loans</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Emerging Markets Debt (Local)</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>TIPS</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Cash Equivalents</u>	<u>0.00</u>	<u>0.00</u>	<u>5.00</u>

The asset allocation is implemented and applies to the remainder of the UPLF after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the UPLF. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the UPLF. It is also understood that the strategic allocation to alternative assets may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the UPLF up to a maximum of 5% measured at the time of commitment.

**10. University of Wyoming Portfolio Management Program.** To provide University of Wyoming students an opportunity to gain actual portfolio management experience under appropriate supervision of personnel of the University of Wyoming, College of Business, the University of Wyoming's Portfolio Management Program shall manage an internal equity portfolio in the amount of \$1,000,000 exclusively from the UPLF (calculated on a cost basis) as a separate operating agency of the State of Wyoming. These funds shall be subject to all the requirements and conditions provided in Section 11.2(a) of this investment policy relating to public equity portfolios, as well as any restrictions stated in the Memorandum of Understanding with the University of Wyoming for the investment of these funds.

## **APPENDIX D. Permanent Land Funds Pool**

- 1. Fund Description.** This sub-policy applies to the several Permanent Land Funds which are not identified elsewhere in this investment policy (the “PLFs”) and which amalgamated together are designated as the Permanent Land Fund Pool (the “PLFP”) administered by the State Treasurer. The corpuses of the PLFs are funded from mineral royalties, leases, fees, permits, and other revenue generated from state lands and must be held inviolate and in one instance, the Agricultural School Permanent Fund must remain “undiminished”. The corpuses of the PLFs are not to be spent but only invested for income and capital gains. The PLFP dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the PLFP are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.
- 3. History and Purpose.** The PLFs were established at Statehood and were intended to provide for a variety of purposes in perpetuity. Their income is deposited as prescribed by the Wyoming Act of Admission and statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Other Considerations.** The Legislature may prescribe conditions and terms under which monies in constituents of the PLFP can be loaned to political subdivisions of the State and has allocated, at times, portions of the PLFP for specific purposes. Therefore, only the remaining portions are available for discretionary investments by the State Treasurer’s Office. The PLFP must be managed to allow for an extensive range of investment maturities. The PLFP is to be invested for the long-term to produce a higher return. The Agricultural School Permanent Fund must, by charter, remain “undiminished” in addition to being inviolate.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the PLFP. Additional liquidity may be needed to meet certain conditions and borrowing authorities prescribed by the Legislature.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the PLFP to avoid a concentration of any single security type.
- 7. Risk.** The pool should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the PLFP can reflect a more long-term oriented approach and a risk profile commensurate with its long-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the PLFP shall be 300 basis points above inflation, as measured by the CPI.
- 9. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the PLFP is as follows:



	<u>Min</u>	<u>Long-Term Target</u>	<u>Max</u>
<u>Broad US Equity</u>	<u>5.00</u>	<u>10.00</u>	<u>15.00</u>
<u>Small Cap US Equity</u>	<u>1.50</u>	<u>3.00</u>	<u>4.50</u>
<u>Broad International Equity</u>	<u>6.50</u>	<u>13.00</u>	<u>19.50</u>
<u>MLPs</u>	<u>2.25</u>	<u>4.50</u>	<u>6.75</u>
<u>Private Equity</u>	<u>4.00</u>	<u>8.00</u>	<u>12.00</u>
<u>Core Real Estate</u>	<u>3.00</u>	<u>6.00</u>	<u>9.00</u>
<u>Non-Core Real Estate</u>	<u>2.00</u>	<u>4.00</u>	<u>6.00</u>
<u>Diversified Hedge Funds</u>	<u>3.75</u>	<u>7.50</u>	<u>11.25</u>
<u>Int. Duration Fixed Income</u>	<u>14.50</u>	<u>29.00</u>	<u>43.50</u>
<u>Bank Loans</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Emerging Markets Debt (Local)</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>TIPS</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Cash Equivalents</u>	<u>0.00</u>	<u>0.00</u>	<u>5.00</u>

The asset allocation is implemented and applies to the remainder of the PLFP after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the PLFP. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the PLFs. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the PLFP up to a maximum of 5% measured at the time of commitment.

## **APPENDIX E. Hathaway Scholarship Fund**

- 1. Fund Description.** This sub-policy applies to the Hathaway Scholarship Fund (the “Hathaway Fund”) administered by the State Treasurer. The corpus of the fund is funded from mineral royalties and must be held inviolate. The corpus of the Hathaway Fund cannot be spent but only invested for income and capital gains. The Hathaway Fund dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the Hathaway Fund are to produce endowment like long-term investment income while providing an appropriate level of safety and liquidity to meet scholarship expectations over time. The primary investment goals are total return, income generation, and protection against inflation. Capital preservation and liquidity are important secondary goals.
- 3. History and Purpose.** The Hathaway Fund was established by the Legislature in conformance with Article 15, Section 20 of the Wyoming Constitution. It is intended to provide scholarships for qualified students to the University of Wyoming. Its income is deposited as prescribed by statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Other Considerations.** The Hathaway Fund is subject to varying demands according to the number of qualifying students, statutory eligibility and scholarship amount, and other considerations attended to periodically by the Legislature.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the Hathaway Fund. Additional liquidity may be needed to meet certain conditions of the scholarship.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the Hathaway Fund to avoid a concentration of any single security type.
- 7. Risk.** The Hathaway Fund should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return, however, the asset allocation for the Hathaway Fund should reflect the need for income generation balanced against a more long-term endowment and growth oriented approach. The risk profile should be commensurate with the income generation and longer-term growth orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the Hathaway Fund shall be 300 basis points above inflation, as measured by the CPI.
- 9. Spending Policy.** The spending policy for the ~~Permanent Mineral Trust Fund and Common School Permanent Land Fund set by legislative determination is 5% of the trailing 5-year~~ Hathaway Fund set by the Legislature is the amount necessary to fully fund scholarships awarded under W.S. 21-16-1301 *et seq.* Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the Hathaway expenditure account to the Hathaway Fund reserve account. The State Treasurer must transfer monies from the Hathaway Fund reserve account to the corpus of the Hathaway Fund to the extent monies within the Hathaway Fund reserve account are in excess of the greater of twelve million dollars (\$12,000,000.00) or an amount equal to 4.5% of the previous 5-year

average market value of the fund Hathaway Fund, calculated on from the first day of the fiscal year.

**10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the Hathaway Fund is as follows:

	<u>Min</u>	<u>Long-Term Target</u>	<u>Max</u>
<u>Broad US Equity</u>	<u>5.00</u>	<u>10.00</u>	<u>15.00</u>
<u>Small Cap US Equity</u>	<u>1.50</u>	<u>3.00</u>	<u>4.50</u>
<u>Broad International Equity</u>	<u>6.50</u>	<u>13.00</u>	<u>19.50</u>
<u>MLPs</u>	<u>2.25</u>	<u>4.50</u>	<u>6.75</u>
<u>Private Equity</u>	<u>4.00</u>	<u>8.00</u>	<u>12.00</u>
<u>Core Real Estate</u>	<u>3.00</u>	<u>6.00</u>	<u>9.00</u>
<u>Non-Core Real Estate</u>	<u>2.00</u>	<u>4.00</u>	<u>6.00</u>
<u>Diversified Hedge Funds</u>	<u>3.75</u>	<u>7.50</u>	<u>11.25</u>
<u>Int. Duration Fixed Income</u>	<u>14.50</u>	<u>29.00</u>	<u>43.50</u>
<u>Bank Loans</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Emerging Markets Debt (Local)</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>TIPS</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Cash Equivalents</u>	<u>0.00</u>	<u>0.00</u>	<u>5.00</u>

The targets established above represent the long-term asset allocation objectives for the Hathaway Fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the Hathaway Fund. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the Hathaway Fund up to a maximum of 5% measured at the time of commitment.

## **APPENDIX F. Excellence in Higher Education Endowment Fund**

- 1. Fund Description.** This sub-policy applies to the Excellence in Higher Education Endowment Fund (the "Higher Ed Fund") administered by the State Treasurer. The corpus of the Higher Ed Fund is funded from mineral royalties and must be held inviolate. The corpus of this Higher Ed Fund cannot be spent but only invested for income and capital gains. The Higher Ed Fund dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the Higher Ed Fund are to produce endowment like long-term investment income while providing an appropriate level of safety and liquidity. The primary investment goals are total return, income generation, and protection against inflation. Capital preservation and liquidity are important secondary goals.
- 3. History and Purpose.** The Higher Ed Fund was established by the Legislature in conformance with Article 15, Section 20 of the Wyoming Constitution. It is intended to aid in recruiting and retaining faculty at the University of Wyoming and Wyoming's community colleges. Its income is deposited as prescribed by statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Other Considerations.** The Higher Ed Fund is subject to varying demands according to the number of faculty position, the demands to recruit and retain faculty, supported research and other considerations attended to periodically by the Legislature.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer's Office. Liquidity must be maintained to move income and capital gains generated during the year out of the Higher Ed Fund.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the Higher Ed Fund to avoid a concentration of any single security type.
- 7. Risk.** The Higher Ed Fund should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return, however, the asset allocation for the Higher Ed Fund should reflect the need for income generation balanced against a more long-term endowment and growth oriented approach. The risk profile should be commensurate with the income generation and longer-term growth orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the Higher Ed Fund shall be 300 basis points above inflation, as measured by the CPI.
- 10.9. Spending Policy.** The spending policy for the Higher Ed Fund set by the Legislature is 5% of the trailing 5-year average market value of the Higher Ed Fund, calculated on the first day of the fiscal year. (Commencing fiscal year 2019 and thereafter, the Legislature reduced the spending policy to 4.75% of the trailing 5-year average market value of the Higher Ed Fund.) Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the general fund to the Higher Ed Fund reserve account. ~~When~~ Through June 30, 2017, when the Higher Ed Fund reserve account reaches a balance that exceeds ~~percent 90~~ 75% of the current fiscal year's spending policy, the excess funds shall be transferred from the ~~reserve account to corpus.~~ Higher Ed Fund reserve account to the corpus of the Higher Ed Fund.

Commencing July 1, 2017, the balance must exceed 150% before transferring any excess funds to the Higher Ed Fund corpus.

**10.21.2 — Permanent Funds—Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the Higher Ed Fund is as follows:

	<u>Min</u>	<u>Long-Term Target</u>	<u>Max</u>
<u>Broad US Equity</u>	<u>4.00</u>	<u>8.00</u>	<u>12.00</u>
<u>Small Cap US Equity</u>	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
<u>Broad International Equity</u>	<u>4.50</u>	<u>9.00</u>	<u>13.50</u>
<u>Preferred Stock</u>	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
<u>MLPs</u>	<u>3.00</u>	<u>6.00</u>	<u>9.00</u>
<u>Core Real Estate</u>	<u>7.50</u>	<u>15.00</u>	<u>22.50</u>
<u>Non-Core Real Estate</u>	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
<u>Int. Duration Fixed Income</u>	<u>18.50</u>	<u>37.00</u>	<u>55.50</u>
<u>Bank Loans</u>	<u>6.00</u>	<u>12.00</u>	<u>18.00</u>
<u>Emerging Markets Debt (Local)</u>	<u>3.50</u>	<u>7.00</u>	<u>10.50</u>
<u>Cash Equivalents</u>	<u>0.00</u>	<u>0.00</u>	<u>5.00</u>

The targets established above represent the long-term asset allocation objectives for the Higher Ed Fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the Higher Ed Fund. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the Higher Ed Fund up to a maximum of 5% measured at the time of commitment.

## **APPENDIX G. Workers' Compensation Fund**

- 1. Fund Description.** This sub-policy applies to the Workers' Compensation Fund ~~of (the State Loan and Investment Board~~ "Workers' Comp Fund") administered by the State Treasurer. ~~This fund~~ The Workers' Comp Fund retains income and capital gains.
- 2. Philosophy and Investment Strategy.** This is a specially managed fund of which the corpus is ~~long-term~~ made up of employers' contributions to the Workers' Compensation funds. Comp Fund. These funds are to be invested for the ~~very~~ long-term to ~~produce~~ provide for a situation in which return that assures the Workers' Compensation fund is Comp Fund will be self-funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions. ~~These funds are managed~~ The Workers' Comp Fund is managed to match liability projections and for long-term return with cash flow necessary only in the case of a disaster. The primary investment goals are long-term return, safety of capital, yield and capital appreciation.
- 3. History and Purpose.** The Workers' Comp Fund was established by constitutional amendment in 1914. Its corpus is intended to provide compensation to employees who suffer job related injuries.
- 4. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs. The exact cash level for the Workers' Comp Fund shall be determined by the staff of the Wyoming Department of Workforce Services and dependent on the liquidity needs of the Workers' Comp Fund, and those cash estimates shall be presented to the State Treasurer's Office on an annual basis.
- 5. Diversification.** The State Treasurer shall diversify the securities held in the Workers' Comp Fund to avoid a concentration of any single security type.
- 6. Risk.** The Workers' Comp Fund has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return. In addition to standard measures of risk which are typically focused on asset volatility, the Workers' Comp Fund should also be managed to mitigate surplus volatility (being the degree to which asset values change relative to liability values). Total portfolio risk should be managed with a goal of avoiding annual losses greater than 16% with a 99% confidence level utilizing appropriate statistical modeling.
- 7. Return Expectations.** The long-term return expectations for the Workers' Comp Fund shall be 300 basis points above inflation, as measured by the CPI.
- 3-8. Target Allocation and Benchmarks.** The asset allocation is restricted by State statutes to a common stock cap. The target asset allocation for the Workers' Comp Fund is as follows:

	Workers' Compensation Fund	Long-Term Target	Max
All Cap U.S. Broad US Equity	9.2%4.50	9.00	13.50
Passively Managed	7.0%		
Actively Managed	2.2%		
Small Cap U.S. Equity	0.8%50	1.00	1.50
Global Equity	1.9%		
Broad International Equity	7.1%5.00	10.00	15.00
MLPs	1.50	3.00	4.50
Core Real Estate	4.0%1.50	3.00	4.50
Absolute Return Non-Core Real Estate	7.0%.50	1.00	1.50
Convertibles Long Duration Fixed Income	3.0%13.50	27.00	40.50
Int. Duration Fixed Income*	62.0%16.50	33.00	49.50
Core	43.3%		
Credit	6.2%		
Opportunistic Bank Loans	1.9%50	3.00	4.50
EMD Emerging Markets Debt (Local)	3.1%2.50	5.00	7.50
TIPS	5.0%2.50	5.00	7.50
Internal Portfolio	2.5%		
Cash Equivalents	5.0%.00	0.00	5.00

\*The total Fixed Income allocation is reduced by Public Purpose Investments.

The target established above represents the long-term asset allocation objective for the Workers' Compensation Fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the fund. It is also understood that the strategic allocation to alternative assets may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative asset classes, the allocation shall fall below the target until the program can be fully established.

- ~~4. **Liquidity Requirements.**— Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs. The exact cash level for the Workers' Compensation Fund shall be determined by the Workers' Compensation staff and dependent on the liquidity needs of the fund, and those cash estimates shall be presented to the State Treasurer's Office on an annual basis.~~
- ~~5. **Maturity.**— This fund is designed to be a long-term investment pool with the main objective to grow the capital over time. The average duration of the portfolio should be +/- 20% of the duration of the Barclays U.S. Aggregate Bond Index or Custom Index, whichever is applicable.~~
- ~~6. **Diversification.**— The State Treasurer shall diversify the securities held in this fund to avoid a concentration of any single security type.~~



~~7. **Risk.** The funds have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return.~~

~~8. **Return Expectations.** The long term return expectations shall be 300 basis points above the CPI.~~

~~9. **Benchmark.** Custom Index weighting the U.S. equity allocation by the Russell 3000 Index, the global equity allocation by the MSCI ACW Index, the international equity allocation by the MSCI ACW Ex US Index, the core real estate allocation by the NCREIF Fund Index—Open End Diversified Core Equity, the non-core real estate allocation by the NCREIF Property Index, the absolute return allocation by the HFN Fund of Funds Multi-Strategy Index, the convertibles allocation by the BofA ML All Convertibles All Quality Index, the fixed income allocation by the Barclays U.S. Aggregate Bond Index, and the State Agency Pool allocation by the State Agency Pool Custom Index as defined in Section 21.4 Sub-Section 9.~~

~~**21.3—Non-Permanent Funds—Tobacco Settlement Trust Fund**~~

~~Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the Workers' Comp Fund up to a maximum of 5% measured at the time of commitment.~~

## **APPENDIX H. Pool A Investment Account**

- ~~1. **Fund Description.** This sub-policy applies to the Tobacco Settlement Trust Fund of the State Loan and Pool A Investment Board Account ("Pool A") administered by the State Treasurer. This fund retains income and capital gains.~~
- ~~2. **Philosophy and Investment Strategy.** This fund is to be managed for investment of payments received pursuant to the Master Settlement Agreement. The primary investment goals are safety of capital, yield and liquidity.~~
- ~~3. **Target Allocation.** Please see Section 21.5 for the target asset allocation.~~
- ~~4. **Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.~~
- ~~5. **Maturity.** The average duration of the portfolio should be +/- 20% of the duration of the Barclays U.S. Aggregate Bond Index or Custom Index, whichever is applicable.~~
- ~~6. **Diversification.** The State Treasurer shall diversify the securities held in this fund to avoid a concentration of any single security type. The fund is expected to contain a majority of longer term U.S. Treasuries, government agencies and corporate bonds.~~
- ~~7. **Risk.** The funds have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return.~~
- ~~8. **Return Expectations.** The long-term return expectations shall be 225 basis points above inflation, as measured by the CPI.~~
- ~~9. **Benchmark.** Custom Index weighting the convertibles allocation by the BofA ML All Convertibles All Quality Index, the fixed income allocation by the Barclays U.S. Aggregate Bond Index, and the State Agency Pool allocation by the State Agency Pool Custom Index as defined in Section 21.4 Sub-Section 9.~~

### **21.4 Non-Permanent Funds — State Agency Pool**

- ~~1. **Fund Description.** This sub-policy applies to the State Agency Pool administered by the State Treasurer. This fund A dispenses income and capital gains. Pool A is one of two pools holding a diverse array of individual funds ranging from agency budgets to reserve accounts. Pool A may hold equities as prescribed by law.~~
- ~~2. **Philosophy and Investment Strategy.** The State Agency Pool A consists of a pooling of money from many different agencies which are not specifically invested for that agency. The monies are invested throughout the spectrum of investment maturities. There and may hold equities as prescribed by law. While Pool A is intended to provide a requirement for more diverse array of securities including equities, it is nonetheless noted that because most of the monies invested represent appropriated funds, in addition to maintaining adequate liquidity from this pool Pool A to meet the day-to-day cash flow needs of the State, Pool A should be managed for stability and return on investment. Cash is invested in a cash portfolio and an extended cash portfolio. The State Treasurer's Office handles the actual cash management, determining what amounts are available to invest. The primary investment goals are safety of capital, yield and liquidity.~~

3. **Target Allocation.** ~~Please see Section 21.5~~ **History and Purpose.** Pool A was created by the Legislature in 2017 in response to the passage of a Constitutional amendment in 2016 which allowed the Legislature to specify certain non-permanent funds that can hold investments in equities as well as fixed income securities. It is one of two pools that hold a variety of funds ranging from agency budgets to reserve and savings accounts and special purpose trusts. Pool A is intended to be moderately liquid and safely invested but also be invested for the target asset allocation, return and growth. Its income is deposited as prescribed by statute.

4. **Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.

5. **Maturity.** ~~The average duration of the portfolio should be +/- 20% of the duration of the Barclays U.S. Aggregate Bond Index or Custom Index, whichever is applicable. Cash in this fund shall be invested in a cash portfolio and an extended cash portfolio. If an instrument is subject to an unconditional put or unconditional demand feature, its final maturity shall be the earlier of the date noted on the face of the instrument as the date on which the principal amount must be paid or the date on which the principal amount of the instrument can be recovered through demand. Sinking fund securities and asset backed issues with periodic principal repayment shall be measured by their anticipated weighted average cash flows for the purpose of calculating their duration.~~

~~a) **Cash Portfolio.** The portfolio's weighted average maturity shall not exceed 90 days. All securities shall have a maximum maturity of 365 days. The maximum average cash flow weighted duration of the portfolio shall not exceed 90 days. The market value of the portfolio shall remain within +/- 0.5% of 1.0% of amortized cost.~~

~~b) **Extended Cash Portfolio.** Maximum average cash flow weighted duration is not to exceed 3 years. Individual securities must not exceed a cash flow weighted duration of 5 years. The extended portion of the cash portion of the account may not exceed 35% of the market value of the portfolio at the time of purchase.~~

6. **Diversification.** ~~The diversified bond portfolio part of the fund is expected to contain a majority of longer term U.S. Treasuries, government agencies and corporate bonds.~~

~~The rest of this fund's diversification Section refers to the cash portfolio and extended cash portfolio in the State Agency Pool.~~

~~Currency must be in U.S. dollar denomination only. The cash portfolios shall seek to be invested fully in permissible investments as of the close of business on each day. The account may only purchase securities issued or guaranteed by a corporation or other entity organized under the laws of a State of the United States and only securities of this type referred to in the first clause of Section 3(a)(2) of the Securities Act of 1933 as amended.~~

~~The cash portfolio and extended cash portfolios' permissible investments are the following securities:~~

~~a) **Asset-Backed Securities:** Limited to automobile receivables, credit receivables, collateralized mortgage obligations (CMO) or pass throughs, the collateral for which is securities issued by GNMA, FNMA, FHLMC or notes fully guaranteed as to principal and interest by the Small Business Administration;~~

~~b) **Master Notes;**~~

- ~~c) Bank Notes;~~
- ~~d) Medium Term Notes;~~
- ~~e) Bankers' Acceptances;~~
- ~~f) Municipal Bonds;~~
- ~~g) Certificates of Deposit;~~
- ~~h) Municipal Notes;~~
- ~~i) Commercial Paper, including unregistered Promissory Notes;~~
- ~~j) Called for Commercial Paper;~~
- ~~k) Repurchase Agreements (including term repurchase agreements) Permitted collateral: Government securities. The minimum collateral required is 102%;~~
- ~~l) Corporate Bonds;~~
- ~~m) Time Deposits Restricted to obligations of financial institutions approved by Wyoming's Board of Deposits;~~
- ~~n) Corporate Notes;~~
- ~~o) U.S. Government Securities;~~
- ~~p) Floating Rate Notes including Obligations of the U.S. Treasury and Obligations of U.S. Government Agencies;~~
- ~~q) Floating rate Certificates of Deposit;~~
- ~~xviii. Guaranteed Investment Contracts (GICs) or synthetic GICs; and~~
- ~~s) Instruments bearing floating or fixed interest rates.~~

~~Commercial paper must be rated A1+ or P1 by at least one Nationally Registered Statistical Rating Organization (NRSRO) (split ratings being permitted). The minimum long term rating for bonds and notes is BBB/Baa2. Such ratings, however, may decline thereafter without per se requiring the sale of the security. GICs must be rated AAA or equivalent by Moody's, Standard and Poor's or Fitch, or rated A+ by A.M. Best. A security without its own rating will be considered to be rated if its user's comparable securities are rated. In addition, long term ratings shall be used only if the security is not rated and no security of the same issuer that is comparable in priority with such security is rated.~~

**7.5. Risk.** ~~The funds have~~Pool A has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 15% with a 99% confidence level utilizing appropriate statistical modeling.

**8.6. Return Expectations.** The long-term return expectations for Pool A shall be 200 basis points above inflation, as measured by the CPI.

**9. Benchmark.** ~~Custom Index weighting the fixed income allocation by the Barclays U.S. Aggregate Bond Index, the cash equivalents allocation by 90-Day U.S. T-Bills and the extended cash allocation by an equal weighted blend of the BofA ML 1-3 Year Agency, 1-3 Year Treasury and 0-3 Year Mortgage Indices.~~

## **21.5 — Non-Permanent Funds — Target Asset Allocation**

**4.7. and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset ~~allocations~~allocation for ~~the above two Non-Permanent Funds~~ arePool A is as follows:

	<b>Tobacco Settlement Fund</b>	<b>State-Agency Pool</b>
Convertibles	3.0%	3.0%
Fixed Income*	94.0%	88.0%
Core	65.8%	61.7%
Credit	9.4%	8.8%
Opportunistic	2.8%	2.6%
EMD-Local	4.7%	4.4%
TIPS	7.5%	7.0%
Internal Portfolio	3.8%	3.5%
Cash Equivalents	3.0%	9.0%

\*The total Fixed Income allocation is reduced by Public Purpose Investments.

	<b><u>Min</u></b>	<b><u>Long- Term Target</u></b>	<b><u>Max</u></b>
Broad US Equity	<u>3.75</u>	<u>7.50</u>	<u>11.25</u>
Small Cap US Equity	<u>0.50</u>	<u>1.00</u>	<u>1.50</u>
Broad International Equity	<u>3.75</u>	<u>7.50</u>	<u>11.25</u>
Preferred Stock	<u>1.00</u>	<u>2.00</u>	<u>3.00</u>
MLPs	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
Int. Duration Fixed Income	<u>24.50</u>	<u>49.00</u>	<u>73.50</u>
Bank Loans	<u>5.00</u>	<u>10.00</u>	<u>15.00</u>
Emerging Markets Debt (Local)	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
TIPS	<u>4.00</u>	<u>8.00</u>	<u>12.00</u>
Cash Equivalents	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>

The targets established above represent the long-term asset allocation objectives for ~~the Funds~~Pool A. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the funds—and accounts in Pool A.

**21.6—Non-Permanent Funds—**Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in Pool A up to a maximum of 5% measured at the time of commitment.

## **APPENDIX I. State Agency Pool**

- 1. Fund Description.** This sub-policy applies to the State Agency Pool (the “SAP”) administered by the State Treasurer. The SAP dispenses income and capital gains. The SAP is one of two pools holding a diverse array of individual funds ranging from agency budgets to reserve accounts.
- 2. Philosophy and Investment Strategy.** The SAP consists of a pooling of money from many different agencies which are not specifically invested for that agency. The monies are invested throughout the spectrum of investment maturities; however, because most of the monies represent appropriated funds in addition to a requirement for liquidity from the SAP to meet the day-to-day cash flow needs of the State, the SAP should be managed for stability assuring that appropriated funds remain to the greatest extent possible intact for their intended purposes. Cash is invested in a cash portfolio and an extended cash portfolio.
- 3. History and Purpose.** The SAP is one of two pools that hold a variety of funds ranging from agency budgets to reserve and savings accounts and special purpose trusts. This pool is intended to be moderately liquid. Its income is deposited as prescribed by statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs as determined by the State Treasurer’s Office.
- 5. Risk.** The SAP has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 10% with a 99% confidence level utilizing appropriate statistical modeling.
- 6. Return Expectations.** The long-term return expectations for the SAP shall be 200 basis points above inflation, as measured by the CPI.
- 7. Target Allocation and Benchmarks.** The target asset allocation for the SAP is as follows:

	<u>Min</u>	<u>Long-Term Target</u>	<u>Max</u>
<u>Convertibles</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Int. Duration Fixed Income</u>	<u>5.00</u>	<u>10.00</u>	<u>15.00</u>
<u>Internal Fixed Income</u>	<u>10.00</u>	<u>20.00</u>	<u>30.00</u>
<u>Low Duration Fixed Income</u>	<u>15.00</u>	<u>30.00</u>	<u>45.00</u>
<u>Bank Loans</u>	<u>7.50</u>	<u>15.00</u>	<u>22.50</u>
<u>Emerging Markets Debt (Local)</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>TIPS</u>	<u>2.50</u>	<u>5.00</u>	<u>7.50</u>
<u>Cash Equivalents</u>	<u>5.00</u>	<u>10.00</u>	<u>15.00</u>

The asset allocation is implemented and applies to the remainder of the SAP after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the SAP. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the funds and accounts in the SAP.



## **APPENDIX J. Wyoming State Treasurer's Asset Reserve (~~the "WYO-STAR"~~)**

1. **Fund Description.** This sub-policy applies to the funds of ~~the WYO-STAR account~~, a local government investment pool administered by the State Treasurer's Office.
2. **Philosophy and Investment Strategy.** ~~This fund~~ WYO-STAR administers the short-term cash deposits made with the State by local entities. The actual investments are administered to provide liquid cash reserves, placing the majority portion in a cash portfolio and the rest in an extended cash portfolio according to specified guidelines. The disbursement of interest income and return of principal to the participants is managed in the State Treasurer's Office. ~~The State of Wyoming WYO-STAR account (the "WYO-STAR Account")~~ shall pursue a short-term and extended-term, fixed income strategy designed to optimize the yield on cash by investing in eligible securities that satisfy these guidelines.
3. **Target Allocation.** One hundred percent (100%) of ~~the fund~~ WYO-STAR is comprised of short-term bonds and cash as denoted in Section ~~24.6~~ below entitled "Diversification/Permissible Investments."
4. **Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer's Office. The percent invested in the extended portion of ~~the WYO-STAR Account~~ shall be directed by the State Treasurer's Office, consistent with ~~Sub-Section 5~~ below entitled "Maturity."
5. **Maturity.** If an instrument is subject to an unconditional put or unconditional demand feature, its final maturity shall be the earlier of the date noted on the face of the instrument as the date on which the principal amount must be paid or the date on which the principal amount of the instrument can be recovered through demand. Sinking fund securities and asset backed issues with periodic principal repayment shall be measured by their anticipated weighted average cash flows for the purpose of calculating their duration. ~~The extended portion of the WYO-STAR Account may not exceed 35% of the market value of the portfolio at the time of purchase.~~
  - a) **Cash Portfolio.** ~~The portfolio's weighted average maturity is not to exceed 90 days. All securities must have a maximum maturity of 365 days. The maximum average cash flow weighted duration of the portfolio must not exceed 90 days. The market value of the portfolio must remain within +/- 0.5% of 1% of amortized cost.~~
  - b) **Extended Cash Portfolio.** ~~Maximum average cash flow weighted duration is not to exceed 3 years. Individual securities must not exceed a cash flow weighted duration of 5 years. The extended portion of the WYO-STAR Account may not exceed 35% of the market value of the portfolio at the time of purchase.~~
6. **Diversification/Permissible Investments.** ~~The WYO-STAR Account~~ is permitted to purchase the following securities:
  - a) Asset-Backed Securities, limited to CMOs or pass-throughs; the collateral for which is securities issued by GNMA, FNMA, FHLMC or notes fully guaranteed as to principal and interest by the Small Business Administration. Automobile receivables and credit receivables shall also be considered permissible investments.
  - b) Repurchase Agreements.

- c) Government Securities, including obligations of the U.S. Treasury and ~~Obligations~~obligations of U.S. ~~Government Agencies or Instruments~~government agencies, bearing floating or fixed interest rates.
  - d) Currency: U.S. dollar denomination only.
7. **Risk.** ~~The funds have~~WYO-STAR has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return.
8. ~~Limitations on Amounts Fully Invested-Cash Reserve; Permitted Borrowing.~~ The WYO-STAR ~~Account~~ shall seek to be invested fully ~~in permissible investments~~ at the close of business on each day.
9. **Repurchase Agreements (including term repurchase agreements).** ~~Permitted Collateral: Government securities.~~ The permitted collateral for repurchase agreements (including term repurchase agreements) shall be government securities. The minimum collateral required is 102%.
10. **Benchmarks.** For the cash portfolio, the benchmark shall be the Monitored Repurchase Agreement Rate ~~plus 15 basis points~~ and for the cash equivalents allocation ~~by the 90-Day,~~ the benchmark shall be the BofA ML 3 Mo U.S. T-Bills index. For the extended cash portfolio, the benchmark shall be an equal-weighted blend of the BofA Merrill Lynch 1-3 Year Agency, 1-3 Year Treasury, and 0-3 Year Mortgage Indices.

## SECTION 22. LOCAL GOVERNMENT INVESTING

~~Permissible investments for the treasurers of any political subdivision, municipality or special district of Wyoming and the various boards of trustees and boards of directors of county hospitals, airports, fairs and other duly constituted boards and commissions (collectively, "Local Government Entities") include those authorized or approved by the Board. (W.S. 9-4-831(a)(xxvii)) Thus, along with the investments already approved by the Wyoming Legislature in W.S. 9-4-831 (a)(i) (xxvi), the Board authorizes and approves the following investment for Local Government Entities:~~

1. ~~Corporate Bonds:~~ Local Government Entities may invest in non-levered investment grade corporate bonds through a separate account arrangement or through a mutual fund or exchange traded fund that invests in investment grade corporate bonds but such account or fund must satisfy the following requirements:
  - a) ~~For investment in non-levered investment grade corporate bonds through a separate account arrangement:~~
    - i. ~~Must be through an investment management agreement with an SEC registered investment advisor, SEC registered investment company, or a bank exempt from registration (the "investment manager" for purposes of this section);~~
    - ii. ~~Investment manager must agree in writing to act in a fiduciary capacity with regards to the assets of the account;~~
    - iii. ~~The account must be diversified by issuer, with no more than 5% of account assets invested with a single issuer, with an exception made for obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government sponsored corporations;~~
    - iv. ~~The effective duration of the account can be no greater than the duration of the Barclays U.S. Aggregate Bond Index by more than 0.5 years; and~~
    - v. ~~Only SEC registered investment grade securities are allowed for purchase.~~
  - b) ~~For investment in mutual funds or exchange traded funds that invest in investment grade corporate bonds:~~
    - i. ~~The fund must be registered with the SEC;~~

- ~~ii.i. The fund must be a “diversified” fund as defined by the SEC;~~
- ~~iii.i. At time of purchase, the fund’s assets must be invested in investment grade corporate bonds or other securities permitted for Local Government Entities;~~
- ~~iv. The effective duration of the fund at time of purchase cannot be greater than the Barclays Aggregate Bond Index by more than 0.5 years at time of purchase;~~
- ~~v. Average credit quality of the fund must be at least A- or equivalent at time of purchase;~~
- ~~vi.i. The net expense ratio of the fund, as defined by the fund’s most recent prospectus, cannot be greater than 0.5% annually (50 basis points), and cannot be greater than the fund’s category average as defined by a nationally recognized provider of mutual fund data such as Morningstar or Lipper; and~~
- ~~vii.i. Shares of the fund must be purchased and sold at the net asset value of the fund. Purchase and sales loads are not allowed.~~

~~When approving, acquiring, investing, reinvesting, exchanging, retaining, selling and managing investments in corporate bonds as described above, the treasurers of Local Government Entities, their designees or any other fiduciaries appointed by the treasurers shall exercise the judgment and care of a prudent investor as specified by the Uniform Prudent Investor Act, W.S. 4-10-901 through 4-10-913.~~

## SECTION 23. GLOSSARY OF TERMS

~~"Alternative Investments" are inclusive of investments that have either the qualities of return potential in excess of traditional investments and/or low correlation with traditional investments. For purposes of this policy, the following investments are included in this definition:~~

- ~~—— Distressed Debt~~
- ~~—— Private Equity~~
- ~~—— Venture Capital~~
- ~~—— Special Situations~~
- ~~—— Real Estate~~
- ~~Absolute Return (Hedge Fund of Funds)~~

~~“Commingled Investment” is an instrument where there is a pooling of securities owned by multiple clients for diversification and cost benefits. With commingled investments, investment managers cannot tailor the portfolio to suit client specific guidelines.~~

~~“Derivative” is a contract or security whose value is based on the performance of an underlying financial asset, index, or other investment. The following are common types of derivatives used in the execution of fixed income strategies:~~

- ~~● **Future**—An agreement to buy or sell a specific amount of a specific security or currency at a specified price and on a specified future date. Futures contracts contain standardized terms, trade on a formal exchange, are regulated by overseeing agencies, and are guaranteed by clearinghouses.~~
- ~~● **Forward**—An agreement which obligates one party to buy and another party to sell a specific security or currency at a specific future date, at a price agreed upon at the time of the initial transaction. Forward contracts are privately negotiated and are not standardized or transferable. Mortgage TBAs (To Be Announced) and Forward Currency trades are examples of forward transactions.~~
- ~~● **Option**—An agreement which conveys the right, but not the obligation, to buy (call option) or sell (put option) a specific security at a stipulated price and within a stated~~

~~period of time. If the option is not exercised during that time, the money paid for the option is forfeited.~~

- ~~• **Swap**—An agreement between two parties to exchange one set of future cash flows for another based on a specified principal amount. Swaps are utilized as an efficient means of obtaining a desired exposure, which commonly include the exchange of interest payments, currencies, credit exposure, or specific bond characteristics such as yield, quality, or maturity. Swaps trade over the counter and can be customized in any number of ways.~~

~~**"Duration"** is expressed in years. It is a measure of a bond's price change with change in yield, and is calculated by averaging the time to each interest and principal payment, weighted by each payment's present value.~~

~~**"Exchange Traded Fund (ETF)"** is a marketable security that tracks an index, commodity, bonds, or a basket of assets. ETFs trade on a stock exchange and experience price changes throughout the trading day as they are bought and sold.~~

~~**"Investment Company Act of 1940"** is an Act that regulates the organization of companies, including mutual funds, that engage primarily in investing, reinvesting, and trading in securities, and whose own securities are offered to the investing. The Act requires these companies to disclose their financial condition and investment policies to investors when stock is initially sold and, subsequently, on a regular basis.~~

~~**"Investment Advisers Act of 1940"** is an Act that regulates investment advisers. With certain exceptions, this Act requires that firms or sole practitioners compensated for advising others about securities investments must register with the SEC and conform to regulations designed to protect investors.~~

~~**"Margin Transaction"** is a technique involving buying or selling short securities using money borrowed from a broker. Margin is the collateral that the holder of the position is required to deposit to cover the broker against a potential loss.~~

~~**"Public Purpose Investment"** is an investment either mandated or permitted by the Wyoming State Legislature for the benefit of the State of Wyoming.~~

~~**"Risk"** shall be the measurable possibility of losing or not gaining value.~~

~~**"Securities Act of 1933"** is the Federal law which requires registration of securities and disclosure of financial information for potential investors.~~

~~**"Short Sale"** is a transaction where the seller sells a security not owned on the expectation that the market price will fall and the seller will be able to buy the security at a price lower than that at which it was sold.~~

~~**"Total Return"** shall be calculated to include all dividend and income as well as realized and unrealized capital appreciation or depreciation.~~

## **SECTION 24. INDEX DEFINITIONS**

**R 3000:** The **Russell 3000 Index** is a market capitalization weighted index of 3,000 widely held equity securities designed to measure performance of the entire U.S. stock market.

**FTSE RAFI US 1000:** The **FTSE Research Affiliates Fundamental Index US 1000 Index** is designed to measure the performance of the largest U.S. equity securities, selected on four fundamental measures of firm size: book value, cash flow, sales, and dividends. The 1,000 securities with the highest fundamental strength are weighted by their fundamental scores.

**MSCI USA Minimum Volatility:** The **MSCI USA Minimum Volatility Index** measures the performance of a minimum-variance strategy applied to the mid- and large-cap segment of the U.S. equity market. The index is calculated by optimizing the MSCI USA Index, its parent index, for the lowest absolute risk (with a given set of constraints).

**S&P 500:** The **S&P 500 Index (Cap Wtd)** is a commonly recognized, market capitalization weighted index of 500 widely held equity securities designed to measure broad U.S. equity performance.

**R 2000:** The **Russell 2000 Index** measures the performance of the small-cap segment of the U.S. equity market. It includes approximately 2000 of the smallest securities by market cap from the Russell 3000 Index.

**MSCI World:** The **MSCI World Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The index consists of the following developed market countries: *Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.*

**MSCI ACW:** The **MSCI ACW Index** is designed to measure equity market performance in global developed and emerging markets. The 23 underlying developed countries are: *Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.* The 23 emerging market countries are: *Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.*

**MSCI ACW Ex U.S.:** The **MSCI ACW (All Country World Index) Ex U.S. Index** is designed to measure equity market performance in global developed and emerging markets, excluding the US. The 22 underlying developed countries are: *Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.* The 23 emerging market countries are: *Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.*

**MSCI ACW Ex U.S. Value:** The **MSCI ACW (All Country World Index) Ex U.S. Value Index** is identical to the MSCI ACWI Ex U.S. with the exception that it focuses specifically on the value segment of global developed and emerging markets.

**MSCI EAFE:** The **MSCI EAFE (Europe, Australasia, Far East) Index** is designed to measure equity market performance of 21 developed countries, excluding the U.S. & Canada: *Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.*

~~**NCREIF ODCE:** The **NCREIF ODCE (Open End Diversified Core) Index** is an index of investment returns reporting on both a historical and current basis the results of 16 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NCREIF ODCE Index is capitalization weighted and performance is time weighted.~~

~~**NCREIF Property:** The **NCREIF Property Index** prepared by the National Council of Real Estate Investment Fiduciaries is a quarterly time series composite return measure for over 6,000 individual commercial real estate properties acquired in the private market for investment purposes. Total performance represents returns from appreciation and income, and includes multi-family, office, retail, and industrial properties.~~

**HFN FOF Multi Strat:** The **HFN FOF (Fund of Funds) Multi-Strategy Index** average is created by HedgeFund.net and contains over 1,600 funds of hedge funds that are each invested in multiple investment strategies.

~~**BofA ML All Convertibles:** The **BofA Merrill Lynch All Convertibles Index (All Qualities)** is a market capitalization weighted index of domestic corporate convertible securities that are convertible to common stock.~~

**Barclays U.S. Agg Bond:** The **Barclays U.S. Aggregate Bond Index** covers the U.S. dollar-denominated, investment grade, fixed rate, taxable bond market of SEC registered securities: U.S. Treasury and agency bonds, domestic corporate debt, and mortgage-backed securities.

**Barclays U.S. Credit:** The **Barclays U.S. Credit Index** covers publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements.

**BofA ML U.S. High Yield:** The **BofA Merrill Lynch U.S. High Yield Master II Constrained Index** consists of U.S. dollar-denominated, below investment grade rated corporate debt publically issued in the U.S. domestic market.

~~**S&P/LSTA Leveraged Loan:** The **S&P/LSTA Leveraged Loan Index** reflects the market-weighted performance of institutional leveraged loans in the U.S. loan market.~~

**JP Morgan GBI-EM Global Diversified Un-hedged:** The **JP Morgan GBI-EM Global Diversified Index** is a global emerging markets index that consist or regularly traded, liquid fixed rate, domestic currency government bonds.

**Barclays U.S. TIPS:** The **Barclays U.S. Treasury: U.S. TIPS Index** is an unmanaged index that consists of inflation-protected securities issued by the U.S. Treasury.

**Barclays U.S. Intermediate Gov't Bond:** The **Barclays U.S. Intermediate Government Bond Index** covers public U.S. government obligations with remaining maturities of between three and five years.

~~**BofA ML 3 Mo U.S. T Bill:** The **BofA Merrill Lynch 3 Month U.S. T Bill Index** consists of newly issued 90-day Treasury bills.~~

**JP Morgan Blended Index:** The **JP Morgan Blended Index** consists of an equal weighted allocation to the BofA ML 1-3 Year U.S. Treasury Index, BofA ML 1-3 Year Agencies Index, and BofA ML 0-3 Year Weighted Average Life Mortgage Index.

**10. Consumer Price Index:** The **Consumer Price Index** (CPI) is a widely used measure of inflation and measures changes in the prices paid by urban consumers for a representative basket of goods and services in the U.S.





**STATE OF WYOMING  
STATE LOAN AND INVESTMENT BOARD**

**MASTER INVESTMENT POLICY and SUB-POLICIES**

**Updated June 1, 2017**

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## **SECTION 1. INTRODUCTION**

The purpose of this document is to establish the Master Investment Policy and Sub Investment Policies for the State of Wyoming State Loan and Investment Board (the "Board"). The Board is comprised of five elected officials: Wyoming's Governor as chairman of the Board, Secretary of State, State Auditor, State Treasurer and State Superintendent of Public Instruction.

The Board is responsible for the fiduciary oversight of the invested public funds of the State of Wyoming (the "State"). The Board has chosen these policies as the most appropriate policies to achieve the investment objectives described below. Wyoming Statute ("W.S.") 9-4-716 states that the Board shall adopt investment policy statements for Wyoming State funds and shall review these investment policy statements at least annually.

## **SECTION 2. INVESTMENT OBJECTIVES AND PRIORITIES, DESCRIPTION OF PORTFOLIO, AND GENERAL PRINCIPLES FOR ACHIEVING RETURN OBJECTIVES**

It is the policy of the Board to invest public funds of the State in a manner that strives for the highest possible risk-adjusted total return consistent with an appropriate level of safety, liquidity, and consideration of the unique circumstances for each fund. The current State portfolio consists of the following Permanent and Non-Permanent Funds:

### **a) Permanent Funds**

- i. Permanent Mineral Trust Fund [Appendix A];
- ii. Common School Permanent Land Fund [Appendix B];
- iii. University Permanent Land Fund [Appendix C];
- iv. Permanent Land Fund Pool [Appendix D];
- v. Hathaway Scholarship Fund [Appendix E];
- vi. Excellence in Higher Education Endowment Fund [Appendix F]; and
- vii. Workers' Compensation Fund [Appendix G].

### **b) Non-Permanent Funds**

- i. Pool A Investment Account [Appendix H];
- ii. State Agency Pool [Appendix I]; and
- iii. Wyoming State Treasurer's Asset Reserve ("WYO-STAR") [Appendix J].

Specific objectives and priorities for each of the individual pools and funds are further delineated in the sub-policies attached in the appendices. Specific objectives and priorities for individual asset managers are delineated by mandate set forth where applicable below.

All available State funds shall be invested with the following considerations:

- a) Recognition of differing objectives and needs of various fund portfolios while emphasizing the highest potential for risk-adjusted total return;
- b) Investments that seek to ensure the preservation of capital and safety of principal in the overall portfolio;
- c) Liquidity requirements of anticipated and unanticipated expenditures;
- d) Yield;
- e) Conformance with State law and other pertinent legal restrictions;
- f) Where appropriate, maximization of the total rate of return on investment consistent with the foregoing objectives; and
- g) Diversification by asset type, security and investment manager in order to smooth the volatility of returns and improve the overall resilience of the investment portfolios.

## **SECTION 3. STANDARDS OF CARE**

**3.1 Prudence.** All participants in the investment process shall act responsibly as custodians of the public trust. The standard of prudence to be applied by the employees of the State Treasurer's Office and external service providers shall be as required under W.S. 9-4-715(d). The Board, the State Treasurer, all members of the Treasurer's Investment Funds Committee, all designees of the State Treasurer, and any other fiduciary appointed by the State Treasurer shall exercise the judgment and care of a prudent investor as required under the prudent investor rule set forth in the Uniform Prudent Investor Act, W.S. 4-10-901 to 4-10-913 (the "Prudent Investor Rule"). This Act states that "[a] trustee shall invest and manage trust assets as a prudent investor would, by considering the purposes, terms, distribution requirements and other circumstances of the trust." W.S. 4-10-901. Investments or groups of investments shall not be evaluated in isolation but in the context of the entire investment portfolio and as part of an overall investment strategy of the trust or fund from which the investment is derived, consistent with the policies for such trust or fund established under W.S. 9-4-716 by the Board.

The purchase of a security or the making of any direct investment by the State Treasurer or the State Treasurer's designee in a security shall not constitute a delegation of the State Treasurer's duties. The State Treasurer may delegate investment and management functions that a prudent investor of comparable skills could properly delegate under the circumstances. The State Treasurer shall exercise reasonable care, skill and caution in:

- a) Selecting an agent;
- b) Establishing the scope and terms of the delegation, consistent with the purposes and terms of the trust; and
- c) Periodically reviewing the agent's actions in order to monitor the agent's performance and compliance with the terms of the delegation.

### **3.2 Ethics and Professionalism.**

- a) **General.** Members of the Board, its staff, the State Treasurer's Office, members of the Treasurer's Investment Funds Committee, and the Consultant (as hereinafter defined) responsible for investment decisions or who influence investment decisions ("Individuals") shall be held to the highest standards of professional and ethical conduct and should be committed to a culture of honesty, integrity and accountability. Individuals shall not engage in any professional conduct involving dishonesty, fraud, deceit or misrepresentation or commit any act that reflects adversely on their honesty, trustworthiness or professional competence. Individuals shall be governed by applicable State statutes, including without limitation W.S. 6-5-118, W.S. 9-13-101 *et seq.* and W.S. 16-6-118.
- b) **Compliance with Laws, Rules, Regulations and Policies.** Individuals must comply with both the letter and spirit of all applicable laws, rules and regulations and the terms and provisions of this investment policy.
- c) **Conflicts of Interest.** Individuals have a duty to avoid financial, business or other relationships which might cause a conflict with the performance of their duties or could reasonably be expected to interfere with their duties or their ability to make unbiased and objective recommendations and decisions. Individuals should conduct themselves in a manner that avoids even the appearance of conflict between their personal interests and their duties as a public official or employee of the State. Conflicts of interest may arise in many ways. Examples include, but are not limited to:

- i. Acceptance of gifts, payments or services from those seeking to do business with the State as described in more detail in Section 3.3 below;
- ii. Placement of business with an entity owned or controlled by an Individual or an Individual's family;
- iii. Ownership of, or personal interest in, a company which is a vendor of the State;
- iv. Ownership of, or personal interest in, any security purchased directly by the State through the State Treasurer's Office or at the direction of the Board; and
- v. Compensation to an Individual by a vendor or potential vendor of the State.

**d) Confidentiality.** Individuals shall not disclose to any other person official information which Individuals obtain through or in connection with their duties, unless the information is available to the general public or unless the disclosure is authorized by law.

**e) Proper Use of Assets.** Individuals shall endeavor to protect the State's assets and ensure their efficient use. State assets, such as funds and equipment, may only be used for legitimate State purposes.

**f) Fair Dealing.** Individuals should endeavor to deal fairly with the State's investment managers and vendors. Individuals should not take unfair advantage of anyone through illegal conduct, manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any other unfair dealing practice.

**3.3 Gifts, Benefits or Favors.** The work of the Board and its staff should always be free from even the inference or perception that favorable treatment was sought, received or given on the basis of the furnishing or receipt of gifts, benefits, entertainment, favors, hospitality or other gratuities. In furtherance of this goal, the following guidelines should be observed:

- a) Individuals may not accept a gift from a vendor unless the gift has a known or apparent value of \$250 or less;
- b) Printed informational, educational, advertising or promotional material shall not be considered a gift;
- c) In no event shall gifts of cash ever be accepted in any amount;
- d) Individuals may accept meals and attend receptions in connection with business discussions at which the host is present;
- e) Individuals may accept invitations to attend activities, events and entertainment in connection with business discussions at which the host is present with a known or apparent value of \$250 or less;
- f) Individuals may not accept multiple gifts and/or invitations for activities, events or entertainment from one vendor in a consecutive 12 month period if the total known or apparent value of all such gifts, activities, events and entertainment is more than \$250;
- g) Individuals may accept travel, registration and lodging paid by someone other than the State for meetings or educational seminars which are necessary or relevant to the operations of the State's investment program; and
- h) Loans from vendors may not be accepted in amounts in excess of \$250 except for loans by recognized banks and financial institutions which are generally available at market rates and terms.

Vendor is defined as an existing or prospective provider of investment related services to the Board and/or the State Treasurer's Office including, but not limited to, brokers, investment managers, custodian bank representatives and consultants.

It is important that Individuals who make or influence investment decisions act objectively without interference from any conflict of interest. Therefore, should an Individual violate any guidelines described above in Sections 3.2 or 3.3, or otherwise have a conflict of interest, then

that Individual shall be forced to abstain from any discussions, recommendations and votes involving that vendor at Board meetings or investment working meetings.

**3.4 Disclosure.** All Individuals must reaffirm their understanding and compliance with the policies contained in Sections 3.2 and 3.3 above in the form of an annual disclosure report to the Office of State Lands and Investments. Such disclosure shall comply fully with the provisions of W.S. 6-5-118 and shall be made a part of the minutes of the Board. The format and timing of such annual disclosure shall be as determined by the Office of State Lands and Investments. While disclosure shall be conducted on an annual basis, compliance with the policies stated in Sections 3.2 and 3.3 above is a continuing obligation and so, if a conflict of interest or other instance of non-compliance should arise at any time during the year, the Individual shall be responsible for reporting such instance to the Office of State Lands and Investments immediately.

## **SECTION 4. AUTHORITY AND RESPONSIBILITIES**

**4.1 Board Responsibilities.** The Board responsibilities shall include but not be limited to the following:

- a) Annual review of master investment policy and sub policies;
- b) Annual review, assessment, and establishment of fund asset allocations;
- c) Advisor/investment consultant selection;
- d) Quarterly review of the performance of the investment portfolio;
- e) Approval of investments for Local Government Entities (as hereinafter defined); and
- f) Termination and hiring of investment managers.

The Governor is Chairman of the Board but in his absence from any meeting any of the Board members may act as Chairman Pro Tempore and preside at meetings. The Director of the State Land and Investment Office is the Chief Executive Officer of the Board. Prior to April 1, 1997, the Board was known and referred to as the Farm Loan Board.

**4.2 Appropriation.** The Board shall receive an appropriation directed to the Office of State Land and Investments to be used to compensate an investment consultant (the "Consultant") for its services to the State.

**4.3 State Treasurer Responsibilities.** The State Treasurer's responsibilities are detailed in the following statutes:

- a) The State Treasurer's responsibilities are detailed in the following statutes:
  - i. W.S. 9-4-715 Permissible Investments;
  - ii. W.S. 9-4-716 State Investment Policy; Investment Consultant;
  - iii. W.S. 9-4-717 Additional Investment Matters;
  - iv. W.S. 9-4-718 Investment Managers; and
  - v. W.S. 9-4-831 Investment of Public Funds
- b) The State Treasurer shall have the following responsibilities and authorities:
  - i. Designate in writing those Treasury Office personnel authorized to invest on behalf of the State. Authority to manage the investment program is granted to the State Treasurer derived from the above statutes;
  - ii. Establish and carry out written procedures and internal controls for the operation of the State investment program consistent with this investment policy. Procedures should include references to: safekeeping, delivery vs. payment, investment accounting, repurchase agreements, wire transfer agreements,

- collateral/depository agreements, banking services contracts, and portfolio rebalancing;
  - iii. Conform State investment transactions as provided under the terms of this investment policy and the procedures established by the State Treasurer;
  - iv. Be responsible for all transactions undertaken by the State and shall establish a system of controls to regulate the activities of subordinate officials;
  - v. Monitor the commission recapture and discount brokerage programs and issue directed brokerage letters (limited to the commission recapture program) to the investment managers on an annual basis;
  - vi. Monitor performance reports from the Consultant;
  - vii. Select and review the State custodian and securities lending agent(s);
  - viii. Recommend termination to the Board of State investment managers when appropriate;
  - ix. Preside over meetings of the Treasurer's Investment Funds Committee as chairman; and
  - x. Designate the Chief Investment Officer of the Treasurer's Office or in their absence another member of the Treasurer's Office Staff to serve as a member of the Treasurer's Investment Funds Committee.
- c) **Internal Controls.** The State Treasurer shall establish a system of internal controls and shall monitor such controls periodically. The controls shall be designed to prevent losses of funds arising from fraud, employee error, misrepresentation by third parties, or imprudent actions by staff. Such controls shall provide for but are not limited to:
- i. Separation of transaction authority;
  - ii. Appropriate segregation of other related duties;
  - iii. Custodial safekeeping of securities;
  - iv. Clear delegation of investment authority;
  - v. Frequent reconciliation of investment and accounting records;
  - vi. Written confirmation of transactions;
  - vii. Supervisory controls;
  - viii. Control of collusion;
  - ix. Development of electronic fund transfer agreements with lead banks and/or third party custodians; and
  - x. Conduct regular staff training to help assure and support internal controls.
- d) The State Treasurer shall retain and authorize staff to support and maintain the integrity of the State investment program. In striving for management quality, it is the policy of the State Treasurer to attract and retain qualified investment staff and to promote, encourage, and provide continuing education for the staff.

**4.4 Treasurer's Office Staff Responsibilities.** The State Treasurer's Office staff responsibilities shall be to implement and monitor the State investment program. Those responsibilities shall include:

- a) Investment research;
- b) Monitoring of Consultant recommendations;
- c) Monitor trade execution; and
- d) Assist in developing and recommending policy, asset allocation and portfolio structure.

**4.5 Consultant Responsibilities.** Duties of the State's Consultant shall include, but not be limited to the following:

- a) Prepare a quarterly performance report to include performance attributions on all State investment managers and total assets, including a review of investment policy guideline compliance and adherence to investment style and discipline;



- b) Provide recommendations to and assist the State Treasurer, the Treasurer's Investment Funds Committee, and the Board regarding investment policy and strategic asset allocation. The recommendations regarding reaffirmation and modification of these policies shall be conducted at least on an annual basis;
- c) Assist the State Treasurer and the Board in the selection of qualified State investment managers, and assist in the oversight of existing managers, including monitoring changes in personnel, ownership and the investment process;
- d) Assist the State Treasurer in:
  - i. The selection of a qualified custodian(s) and a securities lending agent(s) for the State;
  - ii. Negotiating fee arrangements and other contract terms with the investment managers on behalf of the State; and
  - iii. Negotiating and arranging for brokerage and custodial services for the State;
- e) Render special projects at the discretion of the Board;
- f) Handle certain other matters, primarily reporting, as described elsewhere in this investment policy; and
- g) Be independent with no conflicts of interests with any current or prospective service providers to the State.

**4.6 Custodian Responsibilities.** Duties of the custodian shall include, but not be limited to the following:

- a) Provide complete custody and depository services for the designated State accounts;
- b) Within 10 business days after month-end, provide a monthly report of the investment activities conducted by the investment managers for the State;
- c) Provide monthly and year-end accounting statements for all State funds, including all transactions; and
- d) Collect all interest income, dividends, and principal realization for the State accounts and properly report it on monthly statements.

**4.7 Internal and External Investment Manager Responsibilities.** Duties of the State investment managers shall include, but not be limited to the following:

- a) Adhere to the investment management style, concepts and principles for which they were hired by the State;
- b) Execute all transactions for the benefit of the State with brokers and dealers qualified to execute institutional orders on an ongoing basis seeking the best cost of execution for the State and where appropriate, facilitate the recapture of commissions on behalf of the State; and
- c) Reconcile monthly accounting, transaction and asset summary data with custodian valuations and communicate and resolve any significant discrepancies with State's Consultant and custodian.

External investment managers for the State (not employees of the State of Wyoming) responsibilities shall also include:

- d) Provide the State Treasurer's Office with a written agreement to invest within the guidelines established in this investment policy and corresponding sub-policies. Alternative investment managers will provide appropriately comparable documents, such as limited partnership agreements;
- e) Provide the State Treasurer's Office with proof of liability and fiduciary insurance coverage;
- f) Be recognized as providing demonstrated expertise over a number of years in the management of institutional assets;
- g) Maintain frequent and open communication with the State Treasurer, State Treasurer's staff, and the State's Consultant on all significant matters pertaining to its firm's

ownership, investment style and philosophy, changes in personnel, significant client departures and periods of underperformance; and

- h) Be a registered investment advisor under the Investment Advisers Act of 1940 as amended, if required to be registered by the terms of such Act.

**4.8 Treasurer's Investment Funds Committee.** The Treasurer's Investment Funds Committee responsibilities shall be to aid the State Treasurer and the Board to implement and monitor the State investment program. Those responsibilities shall include:

- a) Provide advice in connection with investment manager selection for the State investment program;
- b) Provide consultation in connection with the review of this investment policy including the review of the asset allocation developed and implemented for each fund;
- c) Periodically review portfolio performance and track adherence to target allocations.
- d) Periodically review manager performance;
- e) Advise the Treasurer and staff on key economic trends and matters relevant to the efficient management of Wyoming's investments; and
- f) Act as a sounding board for the Treasurer and staff on matters between Board meetings pertaining to developments in the State's portfolio or the economy.

**4.9 State Auditor Responsibilities.** Duties of the State Auditor shall include, but not be limited to the following:

- a) Maintain the State's accounting records, vouchers, documents, contracts and fiscal accounts;
- b) Order all payments into and out of the funds held in the State Treasury;
- c) Serve as the State's controller, chief accountant, chief fiscal officer, and State payroll officer and to supervise the issuance of all warrants;
- d) Audit and settle all claims against the State;
- e) Draw all warrants upon the State Treasury;
- f) Participate in an annual audit and provide an annual financial report to the fiscal affairs of the State, prepared in conformance with generally accepted accounting principles; and
- g) Coordinate the audit of the State's federal programs to comply with federal requirements.

## **SECTION 5. CASH HOLDINGS**

Equity managers for the State shall be fully invested at all times, except in anticipation of large withdrawals instructed by the State Treasurer's Office. Equity managers should maintain less than 7.5% of their portfolios in cash equivalents except for periods of short-term portfolio repositioning not to exceed 5 trading days, unless the contract with the equity manager specifically provides otherwise. Fixed income managers for the State may maintain higher cash balances. An exception shall be made for alternative investments.

## **SECTION 6. PUBLIC PURPOSE INVESTMENTS**

Public Purpose Investments ("PPIs") are a category of investments authorized by the Wyoming State Legislature (the "Legislature") committing State funds to projects or programs specifically chosen by the Legislature to further various public purposes or benefits for the State and its citizens. The array of these legislatively designated investments fall into two broad categories: those in which statute commits funds to specific investments and those where statute directs State agencies to exercise judgment for programs authorized by the Legislature. This latter group can be further subdivided into programs where the State Treasurer's Office has specific responsibilities and those where other agencies bear the bulk of those responsibilities.

The State Treasurer's Office, as well as other agencies with programmatic responsibilities, may have unique processes and rubrics guiding the evaluation of investment opportunities. Successful candidates are evaluated and awarded pursuant to authorizing statutes including in some cases the Prudent Investor Rule. Nevertheless, PPIs are not generally chosen for their contribution to the portfolio's performance or its overall soundness. Moreover, owing to the fact these investments are often idiosyncratic, they are not easily judged against peers and therefore do not lend themselves to treatment in an index or against other more traditional metrics. Accordingly, their inclusion in either permanent or non-permanent portfolios adds an element which is difficult to classify and which can detract from performance as well as add risk. PPIs are included as a separate line item within the annual portfolio analysis and excluded from all fund performance calculations as there are no appropriate indices which can provide a context for peer review.

## **SECTION 7. POOLED/COMMINGLED INVESTMENTS**

**7.1 Commingled Investments.** Commingled investments may be made by the State in cases where there is an operational efficiency, fee advantage, or other demonstrable benefit to the portfolio gained through such an investment.

**7.2 Restricted Securities.** Investments in mutual or commingled funds which invest in securities which the State could not own directly are permitted, so long as the overall characteristics of the mutual or commingled fund are generally consistent with this investment policy. While it is not expected that mutual or commingled fund guidelines will align perfectly with this investment policy, it is expected that mutual or commingled funds will be vetted to ensure a reasonably high degree of consistency with this investment policy before an investment is made. All diversified money market funds shall comply with W.S. 9-4-831(g), Investment of Public Funds.

**7.3 Mutual Fund Investments.** With the approval of the Board, the State Treasurer may invest in a diversified mutual fund as long as it is registered under the Securities Act of 1933 and Investment Company Act of 1940, as amended, and has qualified under state registration requirements, if any, to sell shares in this State. The diversified mutual fund must be purchased at the current net asset value.

## **SECTION 8. PERMISSIBLE INVESTMENTS BY THE STATE TREASURER'S OFFICE**

**8.1 Statutory Provisions.** The investment of State funds by the State Treasurer's Office and investment managers shall comply with applicable statutory provisions. Some of these statutes are listed below:

- a) W.S. 2-3-301                      Standard for Fiduciaries;
- b) W.S. 9-4-715                    Permissible Investments;
- c) W.S. 9-4-716                    State Investment Policy; Investment Consultants;
- d) W.S. 9-4-717                    Additional Investment Matters;
- e) W.S. 9-4-718                    Investment Managers;
- f) W.S. 9-4-831                    Investment of Public Funds; and
- g) W.S. 9-4-1101 *et seq.* Tax and Revenue Anticipation Notes.

**8.2 Public Equity Security Restrictions.** All public equity investments, over-the-counter securities, and other equity related securities held by the State shall be limited to securities that are actively traded on U.S. exchanges or Non-U.S. exchanges including the NASDAQ. Public equity holdings shall be restricted to companies which have a history of more than 3 years continuous operation (current firm and/or predecessor firm), unless the contract with the

investment manager specifically provides otherwise. Furthermore, securities that are acquired as the result of corporate actions are permitted.

**8.3 Alternative Investment Restrictions.** Alternative investments which the State obtains in the form of a security shall follow the process outlined in W.S. 9-4-715(c). Alternative investments and strategies encompass a broad range of securities and investments. No specific restrictions are made except that leverage, if utilized, must be limited to less than 50% at the limited partnership level in which the State is an investor; provided, however, for core real estate investments, leverage should not exceed 40% across the entire portfolio and there are no specific limits on leverage for non-core real estate managers.

## **SECTION 9. PROHIBITED INVESTMENTS FOR SEPARATE ACCOUNT SITUATIONS**

The following investments are prohibited in separate account situations (i.e., where the investment manager can tailor the investment portfolio to comply with State guidelines and the securities are not commingled with those of other clients):

**9.1 Self-Dealing Transactions.** Investment managers cannot purchase or hold any security that is issued by a corporation where the investment management firm may have any type of ownership relationship. An exception can be made in the case where an investment manager is attempting to replicate an index in which the investment manager's firm or parent's security is represented. Since the investment manager is simply attempting to replicate the index, such holding does not represent a self-dealing transaction. Another exception may be allowed for alternative investment managers where investments may be made in vehicles by the investment managers for the managers' account and/or the managers' professionals and/or families.

**9.2 Floating Rate Securities.** Floating rate securities, the interest rate of which does not reset as a result of changes in one or more reference interest rates, are prohibited. Examples of prohibited floating rate securities are those whose interest rate reset is based on an index of commodities or equity securities. Reverse floaters are also prohibited.

**9.3 Individual Certificates of Deposit and Time Deposits.** Individual certificates of deposit and time deposits may not exceed \$250,000 unless they are 100% collateralized by eligible securities or fully covered by a surety bond.

**9.4 Letter Stock.** Letter stock and other unregistered equity securities are prohibited.

**9.5 Real Estate.** Real Estate, either private or public, is prohibited. An exception is made if an external investment manager that has been retained as a dedicated real estate investment manager manages the account, if the investment is part of an alternative investment or as provided in W.S. 9-4-715(k), or if Real Estate Investment Trusts are included in the composition of the investment manager's stated benchmark.

**9.6 Short Sales and Margin Transactions.** Short sales and margin transactions are prohibited except as detailed in the derivative policy below.

## **SECTION 10. DERIVATIVES POLICY**

**10.1 Allowable Use of Derivatives.** Derivative instruments may be used selectively in lieu of physical securities by investment managers for the State under the following conditions:

- a) Derivatives may be used (i) when they offer better liquidity (lower transaction costs), (ii) when they offer greater precision for the purposes of managing a portfolio's duration, yield curve exposure, prepayment or credit risk or (iii) to hedge foreign currency risk.
- b) Derivatives may only be used primarily to reduce risk exposures, but derivatives may also be employed to increase exposure to a certain risk factor if that desired exposure is not easily obtained via physical securities.
- c) Permissible derivative instruments include futures, forwards, options and swaps. Warrants are only permitted when attached to securities authorized for investment.
- d) The use of derivatives by an investment manager may not materially alter their portfolio risk profile beyond that which is implied by their investment style.
- e) Under no circumstances should leverage be employed in the purchase of securities.

This Section does not apply to the use of derivatives in alternative investment portfolios which is governed by Section 10.3 below.

**10.2 Change in Use of Derivatives.** An investment manager must obtain the approval of the State Treasurer's Office if an investment manager desires to use derivatives in a manner which is not allowed under Section 10.1 above or if, at any time, the investment manager desires to change how it utilizes derivatives in its management of the funds of the State. Each investment manager utilizing derivative securities shall prepare, maintain, and periodically deliver a written derivatives policy to the State Treasurer's Office.

**10.3 Alternative Investment Portfolios.** Derivatives may be utilized within alternative investment portfolios provided that the instruments and strategies utilized are consistent with this investment policy of the alternative investment vehicle and that the State's Consultant has reviewed, approved, and is monitoring their use. The State's Consultant shall monitor these instruments and strategies used to ensure that they are not expected to materially or adversely alter the portfolio risk profile in any given market cycle.

## **SECTION 11. PORTFOLIO GUIDELINES**

**11.1 Pertaining to the Overall Investment Program (exceptions may apply to Alternative Investments as detailed in their respective contracts).**

- a) A maximum of 1% of the outstanding common shares of any corporation shall be owned by the State. An exception is made for alternative investments and for companies with a market capitalization below \$5 Billion as described in Section 11.2(a)(ii).
- b) A maximum of 1.5% of the total book value of permanent funds and non-permanent funds that can invest in equities shall be invested in the common stock of any corporation.
- c) The State Treasurer or designee can invest in any class of security not otherwise authorized by law, provided the security was authorized by law at the time it was acquired and the total book value of all securities not authorized by law shall not exceed 1% of the total book value of the permanent fund accounts and the accounts of the non-permanent funds that can invest in equities, and provided further that any such investment shall be in accordance with the fiduciary standards specified in W.S. 2-3-301.
- d) A maximum of 70% of the total book value of permanent funds may be invested in equities and alternative investments.
- e) Security selection, portfolio structure and timing of purchase and sales are delegated to the investment manager.
- f) The Board is concerned with terrorism and human rights violations occurring worldwide, yet recognizes its fiduciary responsibility to invest only in the best economic interest of the portfolio. While the Board cannot make investments based on social or political objectives, it does consider the economic effects of social and humanitarian issues in the

analysis of investments. The Board seeks to avoid investments that support terrorism or the violation of human rights. As such, the Board requires its investment managers to acknowledge that they will strive to avoid such investments. Specifically, investment managers are required to check portfolio holdings no less frequently than quarterly against the companies listed on the Specially Designated Nationals List and the countries listed on the Lists of Sanctioned Countries, maintained by the U.S. Treasury Department Office of Foreign Assets Control ("OFAC"), to ensure that the companies or countries on the list are not represented in the portfolios. If a current holding appears on the list at the time of the quarterly check, the investment manager will eliminate the position from the portfolio within a reasonable period of time and will not make additional purchases unless the issuer is removed from the OFAC list.

- g) Commodities, commodity contracts, and natural resource properties are generally discouraged owing to Wyoming's native correlative exposure to natural resource development. Any investment in commodities, commodity contracts, or natural resource property such as oil or timber must take into consideration overall exposure to natural resources and commodities including Wyoming's general economy. An exception is made if the investment is part of an alternative investment.
- h) The strategies described in this Section 11 may be managed (i) internally by the State Treasurer's Office, (ii) by one or more external managers, (iii) through one or more direct fund investments, and/or (iv) through one or more fund of funds arrangements; provided, however, all external managers must be selected by the Board as provided in W.S. 9-4-718 and the material terms of the instruments governing the investment for all alternative investments must be approved by the Board pursuant to W.S. 9-4-715(c).

**11.2 Pertaining to Individual Strategies.** The following guidelines apply to internal and external investment managers for each of the investment strategies utilized by the State, unless the contract with the investment manager specifically provides otherwise. External investment firms shall have a demonstrated record in managing institutional portfolios of strategies for which they were hired by the State.

For all fixed income credit rating guidelines, Standard and Poor's, Fitch, or Moody's ratings are acceptable. If the issue is rated by more than one rating agency, the lower rating shall apply. Securities that are not rated will be, in the judgment of the investment manager, of credit quality equal or superior to the standards described below.

- a) **Public Equity.** The objectives of the State's public equity investments are to provide the State with total return, capital appreciation, protection against inflation risk and consistent returns as measured by the appropriate index. The State shall employ diversification by investment style (e.g., value versus growth) and capitalization (small, mid, large). The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through exchange traded funds ("ETFs"), mutual funds and other types of index funds. The guidelines in this section apply to all active public equity managers, which are diversified across the following strategies:

- a.
  - a. All-Cap U.S. Equity
  - b. Small-Cap U.S. Equity
  - c. Global Equity
  - d. International Equity
  - e. Emerging Market Equity
- i. A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.
- ii. A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For

companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.

- iii. The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.
- iv. A minimum number of 20 securities shall be held.

**b) Preferred Stock.** The objectives of the State's preferred stock investments are to provide income to the State through dividend payments with the potential for capital appreciation and consistent returns as measured by the appropriate index. Preferred stock investments are a class of stock that provides priority over common stockholders on earnings in the event of liquidation. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active preferred stock managers.

- i. Minimum issue credit rating for preferred stock at the time of purchase will be BB or equivalent.
- ii. A maximum of 35% of the total portfolio of the investment manager may be invested in securities rated below investment grade.
- iii. A maximum of 10% of the total portfolio of the investment manager may be invested in any one issuer.

**c) Master Limited Partnerships ("MLPs").** The objectives of the State's MLP investments are to provide the State with total return, capital appreciation, protection against inflation risk and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active MLP managers.

- i. A maximum of 15% or the benchmark weighting + 2%, whichever is greater, of the total portfolio may be invested in any one company.

**d) Core Fixed Income.** The objectives of the State's core fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, yield enhancement and, consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active core fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.
- iii. Non-U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.
- iv. Private mortgage-backed and asset-backed securities are limited to 10% of the portfolio market value.
- v. Commercial mortgage-backed securities are permitted but shall comprise no more than 10% of the portfolio market value.
- vi. Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.
- vii. Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.
- viii. Commercial paper of all issuers shall not exceed \$500,000,000.
- ix. A minimum number of 25 securities shall be held.



- x. Duration must fall in the range of +/- 20% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Bond Index by more than 20%.
- xi. Average portfolio credit quality must be at least A- or equivalent.
- xii. Minimum issue credit rating at time of purchase shall be:
  - a. A1 or equivalent for commercial paper;
  - b. BBB- or equivalent for corporate bonds, Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities, Non-U.S. Dollar-Denominated Securities and Dollar-Denominated Emerging Market Securities.
- xiii. Standalone private placements, including 144A, securities are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**e) Intermediate Government Bond Fixed Income.** The objectives of the State's intermediate government bond fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, liquidity as needed, flexibility to the overall investment program and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active intermediate government bond fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. Non-U.S. Government securities are allowed, up to a maximum of 20% of the portfolio.
- iii. Duration should not exceed +2 years of the index.

**f) Long Duration Fixed Income.** The objectives of the State's long duration fixed income investments are to hedge the portfolio against any adverse interest rate based changes, to plan liabilities and to provide consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active long duration fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.
- iii. A maximum of 30% of the portfolio may be invested in U.S. dollar denominated non-U.S. fixed income securities.
- iv. A maximum of 10% of the portfolio may be invested in U.S. dollar denominated emerging market securities.
- v. A maximum of the appropriate benchmark plus 5% of the portfolio may be invested in convertible and municipal securities.
- vi. Portfolio duration for long duration bond portfolios must be within plus or minus 2 years of the Bloomberg Barclays U.S. Government/Credit: Long Term Bond Index. Custom portfolios designed to match the duration of plan liabilities must be within plus or minus 1 year of the duration of plan liabilities.
- vii. Average portfolio quality will be BBB+ or better. Securities shall be rated investment grade at time of purchase.

**g) Low Duration Fixed Income.** The objectives of the State's low duration fixed income investments are to provide stable income to the State, preservation of capital,

diversification of the State's fixed income portfolios, a ready source of liquidity, stable investment return, and consistent returns as measured by the appropriate index. The low duration fixed income portfolio should consist of securities which provide exposure to the low duration U.S. fixed income market including Treasury and government agency bonds, corporate debt, mortgages, asset backed securities and municipals with an overall duration similar to the Bloomberg Barclays US Gov't/Credit: 1-3 Year Bond Index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active low duration fixed income managers.

- i. Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.
- ii. All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.
- iii. Corporate securities will be subject to a maximum limit of 60%.
- iv. Agency Mortgage Backed Securities ("MBS") will be subject to a maximum limit of 5%. Non-agency MBS are not permissible.
- v. Asset Backed Securities ("ABS"), excluding CMBS, will be subject to a maximum limit of 10%. Minimum rating at time of purchase is AAA, with the exception of up to 5% maximum ABS rated below AAA but no lower than A.
- vi. Commercial Mortgage Backed Securities ("CMBS") are subject to a maximum limit of 5%.
- vii. Portfolio duration must be within plus or minus 30% of the Bloomberg Barclays US Gov't/Credit: 1-3 Year Bond Index.
- viii. Average portfolio quality will be A or better.

**h) Convertible Securities.** The objectives of the State's convertible securities investments are to provide stable income to the State, diversification of the State's fixed income portfolios, potential for capital appreciation and consistent returns as measured by the appropriate index. Convertible securities are fixed income securities that can be converted into a predetermined amount of the company's equity at certain times during the life of the bonds. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active convertible securities managers.

- i. Convertible securities that are traded over-the-counter should be of acceptable credit quality. However, a convertible manager may invest in below investment grade and non-rated securities per their internal credit analysis and investment process.
- ii. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**i) Credit Fixed Income.** The objectives of the State's credit fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active credit fixed income managers. The investment managers implementing an active strategy shall have the flexibility to tactically allocate around the strategic targets.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.

- ii. Duration must not exceed + 2 years of the Custom Credit Index (as defined in Section 20 below).
- iii. Minimum issue credit rating for commercial paper will be A1 or equivalent.
- iv. Average portfolio credit quality must be at least B or equivalent.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.
- Investment Grade Credit Sleeve:**
- vi. Minimum issue credit rating at the time of purchase shall be BBB- or equivalent for individual securities.
- vii. Between 10% and 60% of the total portfolio shall be invested in investment grade rated securities.
- High Yield Sleeve:**
- viii. Minimum issue credit rating at the time of purchase shall be:
  - a. CCC- or equivalent for individual securities; and
  - b. Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- ix. A maximum of 40% of the total portfolio shall be invested in high yield bonds.
- Bank Loan Sleeve:**
- x. Minimum issue credit rating at the time of purchase shall be:
  - a. CCC or equivalent for individual securities; and
  - b. Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- xi. Between 40% and 80% of the total portfolio shall be invested in bank loans.

**j) Investment Grade Fixed Income.** The objectives of the State's investment grade credit fixed income investments are to provide stable income to the State, safety of principal, diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active investment grade fixed income managers.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.
- ii. Duration must not exceed + 2 years of the Bloomberg Barclays U.S. Credit Index.
- iii. Average portfolio credit quality must be at least BBB or equivalent.
- iv. Minimum issue credit rating at the time of purchase shall be BBB- or equivalent for individual securities.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**k) High Yield Fixed Income.** The objectives of the State's high yield fixed income investments are to provide income to the State, diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active high yield fixed income managers.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.

- ii. Duration must not exceed + 2 years of the Bloomberg Barclays U.S. Corporate High Yield Index.
- iii. Average portfolio credit quality must be at least B or equivalent.
- iv. Minimum issue credit rating at the time of purchase shall be:
  - a. CCC- or equivalent for individual securities
  - b. Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**l) Bank Loans.** The objectives of the State's bank loans investments are to provide income to the State, diversification of the State's fixed income portfolios, yield enhancement, protection against rising interest rates and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active bank loan managers.

- i. Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.
- ii. Duration must not exceed + 1 year of the S&P/LSTA Leveraged Loan Index.
- iii. Average portfolio credit quality must be at least B or equivalent.
- iv. Minimum issue credit rating at the time of purchase shall be:
  - a) CCC or equivalent for individual securities; and
  - b) Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.
- v. Standalone purchases of private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

**m) Emerging Markets Debt (Local Currency) Fixed Income.** The objectives of the State's emerging markets debt fixed income investments are to provide diversification of the State's fixed income portfolios, yield enhancement and consistent returns as measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active emerging markets debt (local currency) fixed income managers.

- i. Obligations of individual sovereign/quasi-sovereign issuers are subject to a 25% per issuer limit.
- ii. The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.
- iii. Duration must be +/- 20% of the index.
- iv. Average portfolio credit quality must be BB+ or equivalent or better.
- v. Minimum Issue Credit Rating at the time of purchase shall be:
  - a. A1 or equivalent for commercial paper;
  - b. B- or equivalent for individual securities
  - c. Where a security is not rated at the issue level, the issuer rating shall be relied upon.
- vi. Standalone private placements, including 144A securities, are not permitted as direct purchase is not currently allowed under regulations of the Securities and Exchange Commission.

- n) **U.S. Treasury Inflation-Protected Securities (“TIPS”).** The objectives of the State’s U.S. treasury inflation-protected fixed income investments are to provide stable income to the State, safety of principal, diversification of the State’s fixed income portfolios, protection against increases in the rate of inflation and consistent returns as measured by the appropriate index. The funds shall be passively managed.
- i. Performance on a gross-of-fees basis should track the index with minimal tracking error over a reasonable time period.
- o) **Cash and Extended Cash.** The objectives of the Cash and Extended Cash investments are to provide liquidity, safety of principal, and stable income consistent with the maturity and risk parameters of each cash pool.
- i. A maximum of 5% of total assets may be placed in securities of one issuer except for government securities.
  - ii. Investment in any single issuer must not exceed 5% of the outstanding issues of that issuer.
  - iii. Cash Portfolio. The portfolio’s weighted average maturity shall not exceed 90 days. All securities shall have a maximum maturity of 365 days. The maximum average cash flow weighted duration of the portfolio shall not exceed 90 days. The market value of the portfolio shall remain within +/- 0.5% of 1.0% of amortized cost.
  - iv. Extended Cash Portfolio. Maximum average cash flow weighted duration is not to exceed 3 years. Individual securities must not exceed a cash flow weighted duration of 5 years. The extended portion of the cash portion of the account may not exceed 35% of the market value of the portfolio at the time of purchase.

Currency must be in U.S. dollar denomination only. The cash portfolios shall seek to be invested fully as of the close of business on each day. The account may only purchase securities issued or guaranteed by a corporation or other entity organized under the laws of a State of the United States and only securities of this type referred to in the first clause of Section 3(a)(2) of the Securities Act of 1933 as amended.

The cash portfolio and extended cash portfolios’ permissible investments are the following securities:

- a. Asset-Backed Securities: Limited to automobile receivables, credit receivables, collateralized mortgage obligations (“CMO”) or pass-throughs, the collateral for which is securities issued by GNMA, FNMA, FHLMC or notes fully guaranteed as to principal and interest by the Small Business Administration;
- b. Master Notes;
- c. Bank Notes;
- d. Medium Term Notes;
- e. Bankers’ Acceptances;
- f. Municipal Bonds;
- g. Certificates of Deposit;
- h. Municipal Notes;
- i. Commercial Paper, including unregistered Promissory Notes;
- j. Called for Commercial Paper;
- k. Repurchase Agreements (including term repurchase agreements)-Permitted collateral: government securities. The minimum collateral required is 102%;
- l. Corporate Bonds;
- m. Time Deposits - Restricted to obligations of financial institutions approved by Wyoming’s Board of Deposits;
- n. Corporate Notes;

- o. U.S. Government Securities;
- p. Floating Rate Notes including Obligations of the U.S. Treasury and Obligations of U.S. Government Agencies;
- q. Floating rate Certificates of Deposit;
- r. Guaranteed Investment Contracts ("GICs") or synthetic GICs; and
- s. Instruments bearing floating or fixed interest rates.

Commercial paper must be rated A1+ or P1 by at least one Nationally Registered Statistical Rating Organization (split ratings being permitted). The minimum long-term rating for bonds and notes is BBB/Baa2. Such ratings, however, may decline thereafter without per se requiring the sale of the security. GICs must be rated AAA or equivalent by Moody's, Standard and Poor's or Fitch, or rated A+ by A.M. Best. A security without its own rating will be considered to be rated if its user's comparable securities are rated. In addition, long term ratings shall be used only if the security is not rated and no security of the same issuer that is comparable in priority with such security is rated.

- p) **Private Equity.** The objectives of the State's private equity investments, which are considered to be alternative investments, are to provide the State with total return, capital appreciation, portfolio diversification, protection against inflation risk and consistent returns as measured by the appropriate index. The funds shall be actively managed. The State may employ diversification by sub-asset class (private equity vs. venture capital vs. special situations) and investment style (early vs. late stage, mid-market vs. large cap market).
  - i. At the time of purchase, a maximum of 25% of the value of any private equity partnership may be invested in any one company or security issued by any one company. An exception may be made when a special purpose vehicle is set up as part of an overall pool where the overall pool satisfies this requirement.
  - ii. At the time of purchase, each investment vehicle (e.g. limited partnership) shall, when fully drawn, invest directly or indirectly in a minimum of 12 underlying companies.
- q) **Absolute Return.** The objectives of the State's absolute return investments, which are considered to be alternative investments, are to provide the State with total return, portfolio diversification, certain defensive capacities, capital appreciation, moderate levels of volatility with low correlation to traditional financial assets and consistent returns measured by the appropriate index. The State Treasurer's Office may implement the strategies described in this section (i) through active management and/or (ii) passively through ETFs, mutual funds and other types of index funds. The guidelines in this section apply to all active absolute return managers.
  - i. The portfolio shall be diversified across underlying hedge fund strategies and hedge fund managers.
- r) **Real Estate.** The objectives of the State's real estate investments, which are considered to be alternative investments, are to provide the State with portfolio diversification, total return, including income and capital appreciation, as well as protection against inflation risk and consistent returns as measured by the appropriate index.
  - i. The core portfolio shall consist of well-leased, high quality, income producing institutional properties.
  - ii. The core portfolio shall be adequately diversified by geographical region, as well as by property type.
  - iii. The non-core portfolio may consist of properties of varying quality, investment size, property type and geographic concentration.

- s) **Opportunistic.** From time to time, investments may be made in opportunistic investments. The objective of such investments by the State shall be to enhance returns through opportunities that present themselves due to stressed conditions in the markets. The guidelines for such investments shall be determined by the investment management agreement or appropriate offering documents in the case of commingled or partnership investments.

## **SECTION 12. RISK MANAGEMENT**

**12.1 Issuer or Secondary Source Failure.** The State Treasurer shall seek to control the risk of loss due to the failure of a security issuer or secondary source. Such risk shall be controlled by constructing investment portfolios using the Prudent Investor Rule, by ensuring adequate portfolio diversification, by collateralization as required by law and by statutory guidelines.

**12.2 Policy Exceptions.** Investment managers are responsible for managing the assets under their care on behalf of the State in accordance with the guidelines established in this investment policy. From time to time, it is possible that market conditions or other events outside the control of the investment manager may cause portfolios for various reasons to fall out of compliance. It is generally expected that investment managers will review any events outside their control that cause the portfolio to fall out of compliance with the best interest of the State's portfolio in mind, and provide a written recommended course of action to the State Treasurer's Office. The State Treasurer's Office shall review these written requests and may grant an exception to the investment policy guidelines if it is believed to be in the best interest of the portfolio. No investment manager is allowed to make new security purchases that would cause the portfolio to fall out of compliance or further out of compliance than it is at the time of purchase. All investment policy exceptions that are granted shall be documented in a quarterly investment policy compliance review, which shall be part of the quarterly investment report provided to the Board. In addition, investment managers will be given an exception to compliance with these investment policy guidelines when commencing the implementation of a strategy or while closing a strategy but only for a period of time as determined by the State Treasurer.

## **SECTION 13. SAFEKEEPING**

The State Treasurer shall contract with an authorized safekeeping agent for safekeeping securities owned by the State as part of its investment portfolio or held as collateral to secure certificates of deposits or repurchase agreements. All securities transactions shall be conducted on a delivery versus payment basis to the State Treasurer's safekeeping bank or to the State Treasurer's Office. The State Treasurer's Office or custodian shall have custody of all securities purchased or held and all evidence of deposits and investments of public funds.

## **SECTION 14. VOTING OF PROXIES**

The Board allows investment managers to vote proxies with the parameters that (i) the investment managers keep the State Treasurer's Office apprised of and annually provide their general proxy policy to the State Treasurer's Office and (ii) the investment managers notify the State Treasurer's Office of controversial matters which may be subject to proxy voting. Investment managers are expected to vote proxies in a way that is generally consistent with the whole of this investment policy and in accordance with the best interests of Wyoming's portfolio.



## **SECTION 15. SECURITIES LENDING**

As part of this investment strategy, the State Treasurer may retain the services of a custodial bank or an independent securities lending agent to supervise a program of securities lending in exchange for a fee or other consideration. Supervision of the program shall include:

- a) Procedures to review the creditworthiness of all borrowers;
  - b) Requirements for full collateralization of all loans; and
  - c) Other methods and procedures required by the Board for securing the lending program.
- (W.S. 9-4-717(d) Securities Lending)

## **SECTION 16. COMMISSION RECAPTURE PROGRAM**

The State Treasurer's Office shall monitor the commission recapture and discount brokerage programs to insure that investment managers provide the best effort to meet their commission recapture guidelines (i.e., requested amount of commission recaptured). The State Treasurer shall issue directed brokerage letters (limited to the commission recapture program) to the investment managers on an annual basis. In determining the amount to be directed, consideration should be given to the type of investment manager (i.e., small capitalization investment managers may not be able to direct as much as large capitalization managers) and the amount of external research the investment manager buys. The quality of execution should never be jeopardized and investment managers will be monitored for performance net of fees relative to the appropriate index.

## **SECTION 17. LIQUIDITY**

Liquidity shall be achieved by investing in securities with active secondary markets with the exception of alternative investments. A security may be liquidated to meet unanticipated cash requirements, to redeploy cash into other investments expected to outperform current holdings, or to otherwise adjust the portfolio. Sufficient liquidity must be maintained to ensure payment to the State of the interest received from investments and any capital gains which occur from trading in the portfolio. This liquidity is the responsibility of the investment manager.

## **SECTION 18. TRADES AND EXCHANGES**

**18.1 Allowance to Sell or Exchange Securities.** Investment managers and the State Treasurer may sell or exchange securities in the course of daily management of specific funds. Such trades may be executed to raise cash, to shift maturity, to change asset mix, to enhance yield and to improve quality. The goal of all such trades is to maximize portfolio performance while minimizing risk.

- a) **Security Swaps.** The State Treasurer and all investment managers will take advantage of security swap opportunities to improve portfolio yield. A swap which improves portfolio yield may be selected even if the transaction results in an accounting loss but only if such transaction complies with the requirements of W.S. 9-4-717(c).
- b) **Marking to Market.** To account for market fluctuations and volatility, the State Treasurer's Office or its agent (independent pricing agent) shall mark to market all securities at least monthly to the extent possible with exceptions made for alternative investments where values are reflected as available. If a significant market event takes place during the month that impacts the value of the portfolio, the State Treasurer's Office or its agent shall mark the portfolio to market to determine the impact on the portfolio. The market value of all securities in the portfolio should be determined on at least a quarterly basis to the extent possible with exceptions made for alternative

investments where values are reflected as available. These values should be obtained from a reputable and independent source where possible with some exceptions made for alternative investments and a report made to the Board at least quarterly by the State's Consultant. It is recommended that the report include the market value, book value and unrealized gain or loss of the securities in the portfolio.

**18.2 Best Price and Execution.** Transactions shall be executed on the basis of "best price and execution" for the sole benefit of the State and other limited partners in the case of investments made through limited partnership vehicles. Any violation of these guidelines is to be corrected immediately upon discovery and reported to the State Treasurer and the State's Consultant. A realized loss to the State resulting from a violation of these guidelines shall require reimbursement to the State. Other remedies may be sought if investments are made through limited partnership vehicles.

## **SECTION 19. PROCEDURES FOR SELECTING AND REVIEWING INVESTMENT MANAGERS AND ALTERNATIVE FUND INVESTMENTS**

**19.1 Investment Manager Review Process.** When an investment manager is to be hired for the State, the State Treasurer shall conduct all necessary and appropriate due diligence including issuing a request for proposal and working with the Consultant or, if appropriate, other suitable consultants. The State Treasurer will confer with other members of the Board and familiarize them with the extent of that due diligence. The State Treasurer will present a finalist or finalists to the Board at a public meeting. The finalist or finalists shall make an oral presentation to the board at the meeting before their selection. Evaluation factors shall include 1-year, 3-year, 5-year and if available 10-year performance records, the associated risks taken to achieve the returns, the quality and stability of the investment personnel of each investment firm, adherence to philosophy and style, and the fees charged by each investment firm. The State Treasurer shall only consider investment firms that have a verifiable 5-year Chartered Financial Analyst Institute compliant track record with respect to the type of investments regarding which the manager will provide services or investment managers employed by an organization and chartered bank trust company with trust assets in excess of \$1,000,000,000. An exception may be made for alternative investments.

**19.2 Investment Manager Selection Process.** The Board shall make a selection based upon the interview and the State Treasurer shall submit a contract for review by the Attorney General. The contract shall provide for its termination by the State with 30 days notice to the investment manager. An exception may be made for alternative investments.

**19.3 Alternative Investments.** When an alternative investment is to be made, the State Treasurer's Office shall provide the Board with a summary of all the material terms and conditions of the documents governing the investment. Pursuant to W.S. 9-4-715(c), the State Treasurer shall obtain the Board's approval of all material terms of the instruments governing the alternative investment prior to the investment of funds. In addition, after such alternative investment is made, any material adverse change to the terms of the instruments governing the investment must be approved by the Board.

**19.4 Performance Monitoring.** Each investment manager for the State shall, at least quarterly, provide a report to the State Treasurer describing the investment manager's performance relative to mutually agreed upon industry indices and reflecting all brokerage fees and other fees or expenses paid by or fees earned by the investment manager, which are paid by the State under the contract with such investment manager. The State Treasurer shall monitor monthly statements and receive quarterly performance reports from the State's Consultant. The State's Consultant shall monitor at least quarterly the State's investment record

for each investment manager under contract to determine whether or not that investment manager is performing up to the standard required by the benchmark of performance specified in the investment manager's contract and report to the Board. If at any time the standard required is not being met, the State Treasurer shall report to the Board and provide a recommendation. The Board may then determine an appropriate course of action.

**19.5 Policy Monitoring.** Each investment manager shall file a quarterly investment policy compliance report with the State's Consultant.

**19.6 Manager Alerts.** Investment managers for the State are required to apprise the Board and to keep the State Treasurer's Office and the State's Consultant informed of any material changes in their respective firms (i.e., change in personnel, ownership and policy).

**19.7 Other Considerations.** In addition to achieving benchmark expectations as described in Section 20, investment managers for the State shall be reviewed for consistency of style and client service.

**19.8 Termination.** Pursuant to W.S. 9-4-718(a)(iv), the Board may terminate the contract with an investment manager by a majority vote. The State Treasurer may recommend the termination of an investment manager to the Board.

**19.9 Transition Management.** The State Treasurer may retain the services of a firm providing transition management services to effect transitions from legacy active external investment managers to target successor investment managers. Total transition charges shall be considered in the selection and evaluation of these vendors including both commission (explicit) and market impact (implicit) costs.

## **SECTION 20. NOMINAL RETURN BENCHMARKS**

Below are the benchmarks for the asset classes listed. Investment performance shall be evaluated against these standards over a full market cycle, approximated by the most recent 5-year period. Actively managed strategies are intended to provide investment performance above the applicable market index, net of fees. Passively managed strategies are intended to provide investment performance consistent with the applicable market index with acceptable levels of tracking error, gross of fees. Where applicable and as indicated below, investment managers for the State shall meet or exceed the top 40<sup>th</sup> percentile of a peer investment manager universe as measured by the State's Consultant, gross of fees.

<b>Asset Class</b>	<b>Market Index (net of fees unless passively managed, managed internally or otherwise indicated)</b>	<b>Measurable Peer Universe (gross of fees unless otherwise indicated)</b>
All-Cap U.S. Equity	Russell 3000 Index	Yes
Small-Cap U.S. Equity	Russell 2000 Index	Yes
Global Equity	MSCI ACW Index	Yes
International Equity	MSCI ACW Ex US Index	Yes
Preferred Stock	S&P U.S. Preferred Stock Index	N/A

<b>Asset Class</b>	<b>Market Index (net of fees unless passively managed, managed internally or otherwise indicated)</b>	<b>Measurable Peer Universe (gross of fees unless otherwise indicated)</b>
Master Limited Partnerships	S&P MLP Index	N/A
Core Fixed Income	Bloomberg Barclays U.S. Aggregate Bond Index, or Bloomberg Barclays Intermediate U.S. Aggregate Bond Index	Yes
Intermediate Government Bond Fixed Income	Bloomberg Barclays U.S. Intermediate Government Bond Index	Yes
Long Duration Fixed Income	Bloomberg Barclays U.S. Government/Credit: Long Term Bond Index	Yes
Low Duration Fixed Income	Bloomberg Barclays U.S. Government/Credit: 1-3 Year Bond Index	Yes
Convertible Securities	BofA ML All Convertibles Index (All Qualities)	N/A
Credit Fixed Income	Custom Credit Index comprised of 20% Bloomberg Barclays U.S. Credit Index, 20% Bloomberg Barclays U.S. Corporate High Yield Index and 60% S&P/LSTA Leveraged Loan Index	Yes
Investment Grade Credit Fixed Income	Bloomberg Barclays U.S. Credit Index	Yes
High Yield Fixed Income	Bloomberg Barclays U.S. Corporate High Yield Index	Yes
Bank Loans	S&P/LSTA Leveraged Loan Index	Yes
Emerging Markets Debt (Local Currency) Fixed Income	JP Morgan GBI-EM Global Diversified Un-Hedged Index	Yes
U.S. Treasury Inflation-Protected Securities	Bloomberg Barclays U.S. TIPS Index (Series B)	N/A
Cash	Monitored Repurchase Agreement	N/A
	BofA ML 3 Mo U.S. T-Bill for cash equivalents allocation	

<b>Asset Class</b>	<b>Market Index (net of fees unless passively managed, managed internally or otherwise indicated)</b>	<b>Measurable Peer Universe (gross of fees unless otherwise indicated)</b>
Extended Cash	JPMorgan Custom Blended Index: Equal-weighted blend of the BofA ML 1-3 Year Agency, 1-3 Year Treasury, and 0-3 Year Mortgage Indices	N/A
Private Equity	S&P 500 Index by 500 basis points, both gross and net of fees (including underlying fund investment manager fees)	Yes, net of fees
Absolute Return	BofA ML 3 Mo U.S. T-Bill by 300 basis points, net of all fees (including underlying fund investment manager fees)	Yes, net of fees
	HFRI Fund of Funds Composite Index (including underlying fund investment manager fees)	
Core Real Estate	NCREIF – Open-End Diversified Core Equity Index	Yes, net of fees
Non-Core Real Estate	NCREIF Property Index by an appropriate risk premium. This risk premium shall vary depending on investment manager strategy and should be consistent with the objectives stated in the investment manager's offering documents	Yes, net of fees
Opportunistic	Custom opportunistic index specific to the investment opportunity	N/A

## **SECTION 21. LOCAL GOVERNMENT INVESTING**

Permissible investments for the treasurers of any political subdivision, municipality or special district of Wyoming and the various boards of trustees and boards of directors of county hospitals, airports, fairs and other duly constituted boards and commissions (collectively, "Local Government Entities") include those authorized or approved by the Board. (W.S. 9-4-831(a)(xxvii)) Thus, along with the investments already approved by the Legislature in W.S. 9-4-831 (a)(i)-(xxvi), the Board authorizes and approves the following investment for Local Government Entities:

1. **Corporate Bonds:** Local Government Entities may invest in non-levered investment grade corporate bonds through a separate account arrangement or through a mutual fund or ETF that invests in investment grade corporate bonds but such account or fund must satisfy the following requirements:
  - a) For investment in non-levered investment grade corporate bonds through a separate account arrangement:
    - i. Must be through an investment management agreement with an SEC registered investment advisor, SEC registered investment company, or a

- bank exempt from registration (the “investment manager” for purposes of this section);
  - ii. Investment manager must agree in writing to act in a fiduciary capacity with regards to the assets of the account;
  - iii. The account must be diversified by issuer, with no more than 5% of account assets invested with a single issuer, with an exception made for obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations;
  - iv. The effective duration of the account can be no greater than the duration of the Bloomberg Barclays U.S. Aggregate Bond Index by more than 0.5 years; and
  - v. Only SEC registered investment grade securities are allowed for purchase.
- b) For investment in mutual funds or ETFs that invest in investment grade corporate bonds:
- i. The fund must be registered with the SEC;
  - ii. The fund must be a “diversified” fund as defined by the SEC;
  - iii. At time of purchase, the fund’s assets must be invested in investment grade corporate bonds or other securities permitted for Local Government Entities;
  - iv. The effective duration of the fund at time of purchase cannot be greater than the Bloomberg Barclays U.S. Aggregate Bond Index by more than 0.5 years at time of purchase;
  - v. Average credit quality of the fund must be at least A- or equivalent at time of purchase;
  - vi. The net expense ratio of the fund, as defined by the fund’s most recent prospectus, cannot be greater than 0.5% annually (50 basis points), and cannot be greater than the fund’s category average as defined by a nationally recognized provider of mutual fund data such as Morningstar or Lipper; and
  - vii. Shares of the fund must be purchased and sold at the net asset value of the fund. Purchase and sales loads are not allowed.

When approving, acquiring, investing, reinvesting, exchanging, retaining, selling and managing investments in corporate bonds as described above, the treasurers of Local Government Entities, their designees or any other fiduciaries appointed by the treasurers shall exercise the judgment and care of a prudent investor as specified by the Prudent Investor Rule and, effective July 1, 2017, as provided in W.S. 9-4-831(m)(i).

## **SECTION 22. GLOSSARY OF TERMS**

**“Alternative investments”** are investments in nontraditional asset classes or in traditional asset classes which are utilized in a nontraditional strategy.

**“Capital gain”** is the difference between an asset’s adjusted purchase price and selling price when the difference is positive. It is a **“Capital loss”** when the difference is negative.

**“Commingled investment”** is an instrument where there is a pooling of securities owned by multiple clients for diversification and cost benefits. With commingled investments, investment managers cannot tailor the portfolio to suit client-specific guidelines.

**“Derivative”** is a contract or security whose value is based on the performance of an underlying financial asset, index, or other investment. The following are common types of derivatives used in the execution of fixed income strategies:

- **Forward** – An agreement which obligates one party to buy and another party to sell a specific security or currency at a specific future date, at a price agreed upon at the time of the initial transaction. Forward contracts are privately negotiated and are not standardized or transferable. Mortgage TBAs (“To Be Announced”) and Forward Currency trades are examples of forward transactions.
- **Future** – An agreement to buy or sell a specific amount of a specific security or currency at a specified price and on a specified future date. Futures contracts contain standardized terms, trade on a formal exchange, are regulated by overseeing agencies, and are guaranteed by clearinghouses.
- **Option** – An agreement which conveys the right, but not the obligation, to buy (call option) or sell (put option) a specific security at a stipulated price and within a stated period of time. If the option is not exercised during that time, the money paid for the option is forfeited.
- **Swap** – An agreement between two parties to exchange one set of future cash flows for another based on a specified principal amount. Swaps are utilized as an efficient means of obtaining a desired exposure, which commonly include the exchange of interest payments, currencies, credit exposure, or specific bond characteristics such as yield, quality, or maturity. Swaps trade over the counter and can be customized in any number of ways.

“**Dividend**” is a distribution of earnings to shareholders, prorated by class of security and paid in the form of money, stock, scrip, or, rarely, company products or property. The amount is decided by the board of directors.

“**Duration**” is expressed in years. It is a measure of a bond’s price change with change in yield, and is calculated by averaging the time to each interest and principal payment, weighted by each payment’s present value.

“**Earnings**” represents money earned from activities such as investing.

“**Exchange Traded Fund (“ETF”)**” is a marketable security that tracks an index, commodity, bonds, or a basket of assets. ETFs trade on a stock exchange and experience price changes throughout the trading day as they are bought and sold.

“**Income**” is comprised of interest and dividend payments.

“**Interest**” represents the cost of using money, expressed as a rate per period of time.

“**Investment Advisers Act of 1940**” is an Act that regulates investment advisers. With certain exceptions, this Act requires that firms or sole practitioners compensated for advising others about securities investments must register with the SEC and conform to regulations designed to protect investors.

“**Investment Company Act of 1940**” is an Act that regulates the organization of companies, including mutual funds, that engage primarily in investing, reinvesting, and trading in securities, and whose own securities are offered to the investor. The Act requires these companies to disclose their financial condition and investment policies to investors when stock is initially sold and, subsequently, on a regular basis.

**"Margin transaction"** is a technique involving buying or selling short securities using money borrowed from a broker. Margin is the collateral that the holder of the position is required to deposit to cover the broker against a potential loss.

**"Public Purpose Investment"** or **"PPI"** is an investment either mandated or permitted by the Legislature for the benefit of the State of Wyoming.

**"Returns"** represent the profit on a securities or capital investment.

**"Risk"** shall be the measurable possibility of losing or not gaining value.

**"Securities Act of 1933"** is the Federal law which requires registration of securities and disclosure of financial information for potential investors.

**"Short sale"** is a transaction where the seller sells a security not owned on the expectation that the market price will fall and the seller will be able to buy the security at a price lower than that at which it was sold.

**"Total return"** shall be calculated to include all dividend and income as well as realized and unrealized capital appreciation or depreciation.

## **SECTION 23. INDEX DEFINITIONS**

**Bloomberg Barclays Intermediate U.S. Agg Bond:** The **Bloomberg Barclays Intermediate U.S. Aggregate Bond Index** covers the U.S. dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities: U.S. Treasury and agency bonds, domestic corporate debt, and mortgage-backed securities, with maturities from 1 up to (but not including) 10 years for all sectors except for securitized (MBS, ABS, CMBS), which does not have a maximum weighted average maturity (MBS) or remaining average life (ABS, CMBS) constraint.

**Bloomberg Barclays U.S. Agg Bond:** The **Bloomberg Barclays U.S. Aggregate Bond Index** covers the U.S. dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities: U.S. Treasury and agency bonds, domestic corporate debt, and mortgage-backed securities.

**Bloomberg Barclays U.S. Corporate High Yield:** The **Bloomberg Barclays U.S. Corporate High Yield Index** consists of U.S. dollar-denominated, below investment-grade rated corporate debt publicly issued in the U.S. domestic market.

**Bloomberg Barclays U.S. Credit:** The **Bloomberg Barclays U.S. Credit Index** covers publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements.

**Bloomberg Barclays U.S. Government/Credit: 1-3 Year Bond:** The **Bloomberg Barclays U.S. Government/Credit: 1-3 Year Bond Index** covers all medium and larger issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between one and three years and are publicly issued.

**Bloomberg Barclays U.S. Government/Credit: Long Term Bond:** The **Bloomberg Barclays U.S. Government/Credit: Long Term Bond Index** covers the non-securitized component of the US Aggregate Index, with maturities of 10 years or more. It includes investment grade, US dollar-denominated, fixed-rate Treasuries, government-related and corporate securities.



**Bloomberg Barclays U.S. Intermediate Gov't Bond:** The **Bloomberg Barclays U.S. Intermediate Government Bond Index** covers public U.S. government obligations with remaining maturities from one up to (but not including) ten years.

**Bloomberg Barclays U.S. TIPS:** The **Bloomberg Barclays U.S. Treasury: U.S. TIPS Index** is an unmanaged index that consists of inflation-protected securities issued by the U.S. Treasury.

**BofA ML 3 Mo U.S. T-Bill:** The **BofA Merrill Lynch 3-Month U.S. T-Bill Index** consists of newly issued 90-day Treasury bills.

**BofA ML All Convertibles:** The **BofA Merrill Lynch All Convertibles Index (All Qualities)** is a market capitalization-weighted index of domestic corporate convertible securities that are convertible to common stock.

**Consumer Price Index:** The **Consumer Price Index** ("CPI") is a widely used measure of inflation and measures changes in the prices paid by urban consumers for a representative basket of goods and services in the U.S.

**HFRI FoF Composite Index:** The **HFRI FoF (Fund of Funds) Composite Index** is an equal-weighted index created by Hedge Fund Research that includes both domestic and offshore funds of hedge funds.

**JP Morgan Custom Blended Index:** The **JP Morgan Blended Index** consists of an equal-weighted allocation to the BofA ML 1-3 Year U.S. Treasury Index, BofA ML 1-3 Year Agencies Index, and BofA ML 0-3 Year Weighted Average Life Mortgage Index.

**JP Morgan GBI-EM Global Diversified Un-hedged:** The **JP Morgan GBI-EM Global Diversified Un-hedged Index** is a global emerging markets index that consists of regularly traded, liquid fixed-rate, domestic currency government bonds.

**MSCI ACW:** The **MSCI ACW Index** is designed to measure equity market performance in global developed and emerging markets. The 23 underlying developed countries are: *Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States*. The 23 emerging market countries are: *Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates*.

**MSCI ACW Ex U.S.:** The **MSCI ACW (All Country World Index) Ex U.S. Index** is designed to measure equity market performance in global developed and emerging markets, excluding the US. The 22 underlying developed countries are: *Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom*. The 23 emerging market countries are: *Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates*.

**NCREIF ODCE:** The **NCREIF ODCE (Open End Diversified Core) Index** is an index of investment returns reporting on both a historical and current basis the results of 16 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NCREIF ODCE Index is capitalization-weighted and performance is time-weighted.

**NCREIF Property:** The **NCREIF Property Index** prepared by the National Council of Real Estate Investment Fiduciaries is a quarterly time series composite return measure for over 6,000 individual commercial real estate properties acquired in the private market for investment purposes. Total performance represents returns from appreciation and income, and includes multi-family, office, retail, and industrial properties.

**Russell 2000:** The **Russell 2000 Index** measures the performance of the small-cap segment of the U.S. equity market. It includes approximately 2000 of the smallest securities by market cap from the Russell 3000 Index.

**Russell 3000:** The **Russell 3000 Index** is a market-capitalization weighted index of 3,000 widely held equity securities designed to measure performance of the entire U.S. stock market.

**S&P 500:** The **S&P 500 Index (Cap Wtd)** is a commonly recognized, market-capitalization weighted index of 500 widely held equity securities designed to measure broad U.S. equity performance.

**S&P MLP:** The **S&P MLP Index** is a float-adjusted, cap-weighted index of energy MLPs and publicly traded limited liability companies, which have a similar legal structure to MLPs and share the same tax benefits. Constituents must have a minimum float-adjusted market cap of USD 300 million.

**S&P U.S. Preferred Stock:** The **S&P U.S. Preferred Stock Index** covers the US market of capital stock that pays dividends at a specified rate and has a preference over common stock in the payment of dividends and the liquidation of assets.

**S&P/LSTA Leveraged Loan:** The **S&P/LSTA Leveraged Loan Index** reflects the market-weighted performance of institutional leveraged loans in the U.S. loan market.

## **APPENDICES. SUB-POLICES ON FUNDS**

### **APPENDIX A. Permanent Mineral Trust Fund**

1. **Fund Description.** This sub-policy applies to the Permanent Mineral Trust Fund (the “PMTF”) administered by the State Treasurer. The corpus of the PMTF must be held inviolate and cannot be spent but only invested for income and capital gains. The fund dispenses income and capital gains.
2. **Philosophy and Investment Strategy.** The main objectives of the PMTF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.
3. **History and Purpose.** The PMTF was established by a Constitutional amendment passed in 1974 and amended in 1996. It is funded by a constitutionally guaranteed 1.5% severance tax on minerals produced in Wyoming. It was intended to set aside a portion of the revenue derived from the production of the State’s minerals to benefit future generations. All income from investments is deposited in the general fund on an annual basis. The Legislature has included capital gains in addition to interest and dividends in its definition of income. A PMTF reserve account was created in 2002 in order to provide for a more predictable return outlined in a specified spending policy.
4. **Other Considerations.** The Legislature has prescribed conditions and terms under which monies in the fund can be loaned to political subdivisions of the State and has allocated, at times, portions of the PMTF to fund PPIs. Therefore, only the remaining portion is available for discretionary investments by the State Treasurer’s Office. The PMTF must be managed to allow for an extensive range of investment maturities that provide for funds availability for PPIs as they come into existence as mandated by the Legislature. The PMTF is to be invested for the long-term to produce a higher return.
5. **Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the PMTF.
6. **Diversification.** The State Treasurer shall diversify the securities held in the PMTF to avoid a concentration of any single security type.
7. **Risk.** The PMTF should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the PMTF can reflect a more long-term oriented approach and a risk profile commensurate with its long-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
8. **Return Expectations.** The long-term return expectations for the PMTF shall be 300 basis points above inflation, as measured by the Consumer Price Index (the “CPI”).
9. **Spending Policy.** The spending policy for the PMTF set by the Legislature is 5% of the trailing 5-year average market value of the PMTF, calculated on the first day of the fiscal year. (Commencing fiscal year 2021, the Legislature reduced the spending policy to 4.75% of the trailing 5-year average market value of the PMTF and commencing fiscal

year 2022 and thereafter, the Legislature reduced the spending policy to 4.5% of the trailing 5-year average market value of the PMTF.) Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the general fund to the PMTF reserve account. Through June 30, 2017, when the PMTF reserve account reaches a balance that exceeds 90% of the current fiscal year's spending policy, the excess funds shall be transferred from the PMTF reserve account to the PMTF corpus. Commencing July 1, 2017, the balance must exceed 150% before transferring any excess funds to the PMTF corpus. It is through this mechanism that the PMTF is partially insulated against inflation.

**10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the PMTF is as follows:

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

The asset allocation is implemented and applies to the remainder of the PMTF after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the PMTF. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the PMTF up to a maximum of 5% measured at the time of commitment.

## **APPENDIX B. Common School Permanent Land Fund**

- 1. Fund Description.** This sub-policy applies to the Common School Permanent Land Fund (the “CSPLF”) administered by the State Treasurer. The corpus of the CSPLF is funded from mineral royalties, leases, fees, permits, and other revenue generated from state lands and must be held inviolate. The corpus of the CSPLF cannot be spent but only invested for income and capital gains. The CSPLF dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the CSPLF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation, income generation and liquidity are important secondary goals.
- 3. History and Purpose.** The CSPLF was established at Statehood and was memorialized in the Act of Admission. It was intended to “be used as a permanent fund, the interest of which only shall be expended for the support of the common schools.” Act of July 10, 1890, ch. 664, 26 Stat. 222 (1890). Its income is deposited as prescribed by statute. A CSPLF reserve account was created in 2002 in order to provide for a more predictable return outlined in a specified spending policy.
- 4. Other Considerations.** The Legislature may prescribe conditions and terms under which monies from the CSPLF can be loaned to political subdivisions of the State and has allocated, at times, portions of the CSPLF for specific purposes. Therefore, only the remaining portions are available for discretionary investments by the State Treasurer’s Office. The CSPLF must be managed to allow for an extensive range of investment maturities. The CSPLF is to be invested for the long-term to produce a higher return.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the CSPLF. Additional liquidity may be needed to meet certain conditions and borrowing authorities prescribed by the Legislature.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the CSPLF to avoid a concentration of any single security type.
- 7. Risk.** The CSPLF should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the CSPLF can reflect a more long-term oriented approach and a risk profile commensurate with its long-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the CSPLF shall be 300 basis points above inflation, as measured by the CPI.
- 9. Spending Policy.** The spending policy for the CSPLF set by the Legislature is 5% of the trailing 5-year average market value of the CSPLF, calculated on the first day of the fiscal year. (Commencing fiscal year 2021, the Legislature reduced the spending policy to 4.75% of the trailing 5-year average market value of the CSPLF and commencing fiscal year 2022 and thereafter, the Legislature reduced the spending policy to 4.5% of the

trailing 5-year average market value of the CSPLF.) Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the general fund to the CSPLF reserve account. Through June 30, 2017, when the CSPLF reserve account reaches a balance that exceeds percent 90% of the current fiscal year's spending policy, the excess funds are transferred from the CSPLF reserve account to the CSPLF corpus. Commencing July 1, 2017, the balance must exceed 150% before transferring any excess funds to the CSPLF corpus. It is through this mechanism that the CSPLF is partially insulated against inflation.

**10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the CSPLF is as follows:

	Min	Long-Term Target	Max
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
Broad International Equity	4.50	9.00	13.50
Preferred Stock	1.00	2.00	3.00
MLPs	3.00	6.00	9.00
Core Real Estate	7.50	15.00	22.50
Non-Core Real Estate	1.00	2.00	3.00
Int. Duration Fixed Income	18.50	37.00	55.50
Bank Loans	6.00	12.00	18.00
Emerging Markets Debt (Local)	3.50	7.00	10.50
Cash Equivalents	0.00	0.00	5.00

The asset allocation is implemented and applies to the remainder of the CSPLF after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the CSPLF. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the CSPLF. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the CSPLF up to a maximum of 5% measured at the time of commitment.

## **APPENDIX C. University Permanent Land Fund**

- 1. Fund Description.** This sub-policy applies to the University Permanent Land Fund (the “UPLF”) administered by the State Treasurer. The corpus of the UPLF is funded from mineral royalties, leases, fees, permits, and other revenue generated from state lands and must be held inviolate. The corpus of the UPLF cannot be spent but only invested for income and capital gains. This UPLF dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the UPLF are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.
- 3. History and Purpose.** The UPLF was established at Statehood and was intended to provide income for the University of Wyoming in perpetuity. Its income is deposited as prescribed by the Act of Admission and statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Other Considerations.** The UPLF is to be invested for the long-term to produce a higher return.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the UPLF. Additional liquidity may be needed to meet certain conditions.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the UPLF to avoid a concentration of any single security type.
- 7. Risk.** The UPLF should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the UPLF can reflect a more long-term oriented approach and a risk profile commensurate with income generation balanced against a longer-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the UPLF shall be 300 basis points above inflation, as measured by the CPI.
- 9. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the UPLF is as follows:

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

The asset allocation is implemented and applies to the remainder of the UPLF after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the UPLF. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the UPLF. It is also understood that the strategic allocation to alternative assets may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the UPLF up to a maximum of 5% measured at the time of commitment.

- 10. University of Wyoming Portfolio Management Program.** To provide University of Wyoming students an opportunity to gain actual portfolio management experience under appropriate supervision of personnel of the University of Wyoming, College of Business, the University of Wyoming's Portfolio Management Program shall manage an internal equity portfolio in the amount of \$1,000,000 exclusively from the UPLF (calculated on a cost basis) as a separate operating agency of the State of Wyoming. These funds shall be subject to all the requirements and conditions provided in Section 11.2(a) of this investment policy relating to public equity portfolios, as well as any restrictions stated in the Memorandum of Understanding with the University of Wyoming for the investment of these funds.



## **APPENDIX D. Permanent Land Funds Pool**

- 1. Fund Description.** This sub-policy applies to the several Permanent Land Funds which are not identified elsewhere in this investment policy (the “PLFs”) and which amalgamated together are designated as the Permanent Land Fund Pool (the “PLFP”) administered by the State Treasurer. The corpuses of the PLFs are funded from mineral royalties, leases, fees, permits, and other revenue generated from state lands and must be held inviolate and in one instance, the Agricultural School Permanent Fund must remain “undiminished”. The corpuses of the PLFs are not to be spent but only invested for income and capital gains. The PLFP dispenses income and capital gains.
- 2. Philosophy and Investment Strategy.** The main objectives of the PLFP are to produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. The primary investment goals are capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.
- 3. History and Purpose.** The PLFs were established at Statehood and were intended to provide for a variety of purposes in perpetuity. Their income is deposited as prescribed by the Wyoming Act of Admission and statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Other Considerations.** The Legislature may prescribe conditions and terms under which monies in constituents of the PLFP can be loaned to political subdivisions of the State and has allocated, at times, portions of the PLFP for specific purposes. Therefore, only the remaining portions are available for discretionary investments by the State Treasurer’s Office. The PLFP must be managed to allow for an extensive range of investment maturities. The PLFP is to be invested for the long-term to produce a higher return. The Agricultural School Permanent Fund must, by charter, remain “undiminished” in addition to being inviolate.
- 5. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the PLFP. Additional liquidity may be needed to meet certain conditions and borrowing authorities prescribed by the Legislature.
- 6. Diversification.** The State Treasurer shall diversify the securities held in the PLFP to avoid a concentration of any single security type.
- 7. Risk.** The pool should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return; however, the asset allocation for the PLFP can reflect a more long-term oriented approach and a risk profile commensurate with its long-term orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
- 8. Return Expectations.** The long-term return expectations for the PLFP shall be 300 basis points above inflation, as measured by the CPI.
- 9. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the PLFP is as follows:

	<b>Min</b>	<b>Long-Term Target</b>	<b>Max</b>
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

The asset allocation is implemented and applies to the remainder of the PLFP after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the PLFP. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the PLFs. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the PLFP up to a maximum of 5% measured at the time of commitment.

## **APPENDIX E. Hathaway Scholarship Fund**

1. **Fund Description.** This sub-policy applies to the Hathaway Scholarship Fund (the “Hathaway Fund”) administered by the State Treasurer. The corpus of the fund is funded from mineral royalties and must be held inviolate. The corpus of the Hathaway Fund cannot be spent but only invested for income and capital gains. The Hathaway Fund dispenses income and capital gains.
2. **Philosophy and Investment Strategy.** The main objectives of the Hathaway Fund are to produce endowment like long-term investment income while providing an appropriate level of safety and liquidity to meet scholarship expectations over time. The primary investment goals are total return, income generation, and protection against inflation. Capital preservation and liquidity are important secondary goals.
3. **History and Purpose.** The Hathaway Fund was established by the Legislature in conformance with Article 15, Section 20 of the Wyoming Constitution. It is intended to provide scholarships for qualified students to the University of Wyoming. Its income is deposited as prescribed by statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
4. **Other Considerations.** The Hathaway Fund is subject to varying demands according to the number of qualifying students, statutory eligibility and scholarship amount, and other considerations attended to periodically by the Legislature.
5. **Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the Hathaway Fund. Additional liquidity may be needed to meet certain conditions of the scholarship.
6. **Diversification.** The State Treasurer shall diversify the securities held in the Hathaway Fund to avoid a concentration of any single security type.
7. **Risk.** The Hathaway Fund should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return, however, the asset allocation for the Hathaway Fund should reflect the need for income generation balanced against a more long-term endowment and growth oriented approach. The risk profile should be commensurate with the income generation and longer-term growth orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
8. **Return Expectations.** The long-term return expectations for the Hathaway Fund shall be 300 basis points above inflation, as measured by the CPI.
9. **Spending Policy.** The spending policy for the Hathaway Fund set by the Legislature is the amount necessary to fully fund scholarships awarded under W.S. 21-16-1301 *et seq.* Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the Hathaway expenditure account to the Hathaway Fund reserve account. The State Treasurer must transfer monies from the Hathaway Fund reserve account to the corpus of the Hathaway Fund to the extent monies within the Hathaway Fund reserve account are in excess of the greater of twelve million dollars (\$12,000,000.00) or an amount equal to 4.5% of the previous 5-year average market value of the Hathaway Fund, calculated from the first day of the fiscal year.

**10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the Hathaway Fund is as follows:

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

The targets established above represent the long-term asset allocation objectives for the Hathaway Fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the Hathaway Fund. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the Hathaway Fund up to a maximum of 5% measured at the time of commitment.

## **APPENDIX F. Excellence in Higher Education Endowment Fund**

1. **Fund Description.** This sub-policy applies to the Excellence in Higher Education Endowment Fund (the “Higher Ed Fund”) administered by the State Treasurer. The corpus of the Higher Ed Fund is funded from mineral royalties and must be held inviolate. The corpus of this Higher Ed Fund cannot be spent but only invested for income and capital gains. The Higher Ed Fund dispenses income and capital gains.
2. **Philosophy and Investment Strategy.** The main objectives of the Higher Ed Fund are to produce endowment like long-term investment income while providing an appropriate level of safety and liquidity. The primary investment goals are total return, income generation, and protection against inflation. Capital preservation and liquidity are important secondary goals.
3. **History and Purpose.** The Higher Ed Fund was established by the Legislature in conformance with Article 15, Section 20 of the Wyoming Constitution. It is intended to aid in recruiting and retaining faculty at the University of Wyoming and Wyoming’s community colleges. Its income is deposited as prescribed by statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
4. **Other Considerations.** The Higher Ed Fund is subject to varying demands according to the number of faculty position, the demands to recruit and retain faculty, supported research and other considerations attended to periodically by the Legislature.
5. **Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer’s Office. Liquidity must be maintained to move income and capital gains generated during the year out of the Higher Ed Fund.
6. **Diversification.** The State Treasurer shall diversify the securities held in the Higher Ed Fund to avoid a concentration of any single security type.
7. **Risk.** The Higher Ed Fund should have a diversified asset allocation to limit the degree of uncertainty in the pursuit of return, however, the asset allocation for the Higher Ed Fund should reflect the need for income generation balanced against a more long-term endowment and growth oriented approach. The risk profile should be commensurate with the income generation and longer-term growth orientation. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level utilizing appropriate statistical modeling.
8. **Return Expectations.** The long-term return expectations for the Higher Ed Fund shall be 300 basis points above inflation, as measured by the CPI.
9. **Spending Policy.** The spending policy for the Higher Ed Fund set by the Legislature is 5% of the trailing 5-year average market value of the Higher Ed Fund, calculated on the first day of the fiscal year. (Commencing fiscal year 2019 and thereafter, the Legislature reduced the spending policy to 4.75% of the trailing 5-year average market value of the Higher Ed Fund.) Amounts spent must be sourced from investment income (interest and dividends) and realized capital gains. Earnings in excess of the spending policy are appropriated from the general fund to the Higher Ed Fund reserve account. Through June 30, 2017, when the Higher Ed Fund reserve account reaches a balance that exceeds 75% of the current fiscal year’s spending policy, the excess funds shall be transferred from the Higher Ed Fund reserve account to the corpus of the Higher Ed Fund.

Commencing July 1, 2017, the balance must exceed 150% before transferring any excess funds to the Higher Ed Fund corpus.

- 10. Target Asset Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for the Higher Ed Fund is as follows:

	Min	Long-Term Target	Max
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
Broad International Equity	4.50	9.00	13.50
Preferred Stock	1.00	2.00	3.00
MLPs	3.00	6.00	9.00
Core Real Estate	7.50	15.00	22.50
Non-Core Real Estate	1.00	2.00	3.00
Int. Duration Fixed Income	18.50	37.00	55.50
Bank Loans	6.00	12.00	18.00
Emerging Markets Debt (Local)	3.50	7.00	10.50
Cash Equivalents	0.00	0.00	5.00

The targets established above represent the long-term asset allocation objectives for the Higher Ed Fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the Higher Ed Fund. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the Higher Ed Fund up to a maximum of 5% measured at the time of commitment.

## **APPENDIX G. Workers' Compensation Fund**

- 1. Fund Description.** This sub-policy applies to the Workers' Compensation Fund (the "Workers' Comp Fund") administered by the State Treasurer. The Workers' Comp Fund retains income and capital gains.
- 2. Philosophy and Investment Strategy.** This is a specially managed fund of which the corpus is made up of employers' contributions to the Workers' Comp Fund. These funds are to be invested for the long-term to provide for a return that assures the Workers' Comp Fund will be self-funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions. The Workers' Comp Fund is managed to match liability projections and for long-term return with cash flow necessary only in the case of a disaster. The primary investment goals are long-term return, safety of capital, yield and capital appreciation.
- 3. History and Purpose.** The Workers' Comp Fund was established by constitutional amendment in 1914. Its corpus is intended to provide compensation to employees who suffer job related injuries.
- 4. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs. The exact cash level for the Workers' Comp Fund shall be determined by the staff of the Wyoming Department of Workforce Services and dependent on the liquidity needs of the Workers' Comp Fund, and those cash estimates shall be presented to the State Treasurer's Office on an annual basis.
- 5. Diversification.** The State Treasurer shall diversify the securities held in the Workers' Comp Fund to avoid a concentration of any single security type.
- 6. Risk.** The Workers' Comp Fund has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return. In addition to standard measures of risk which are typically focused on asset volatility, the Workers' Comp Fund should also be managed to mitigate surplus volatility (being the degree to which asset values change relative to liability values). Total portfolio risk should be managed with a goal of avoiding annual losses greater than 16% with a 99% confidence level utilizing appropriate statistical modeling.
- 7. Return Expectations.** The long-term return expectations for the Workers' Comp Fund shall be 300 basis points above inflation, as measured by the CPI.
- 8. Target Allocation and Benchmarks.** The asset allocation is restricted by State statutes to a common stock cap. The target asset allocation for the Workers' Comp Fund is as follows:

	<b>Min</b>	<b>Long-Term Target</b>	<b>Max</b>
Broad US Equity	4.50	9.00	13.50
Small Cap US Equity	0.50	1.00	1.50
Broad International Equity	5.00	10.00	15.00
MLPs	1.50	3.00	4.50
Core Real Estate	1.50	3.00	4.50
Non-Core Real Estate	0.50	1.00	1.50
Long Duration Fixed Income	13.50	27.00	40.50
Int. Duration Fixed Income	16.50	33.00	49.50
Bank Loans	1.50	3.00	4.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

The target established above represents the long-term asset allocation objective for the Workers' Comp Fund. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the Workers' Comp Fund. It is also understood that the strategic allocation to alternative investments may differ from the outlined targets for limited periods of time, due to the illiquid nature of these asset classes. Further, during the initial implementation of alternative investments, the allocation shall fall below the target until the program can be fully established.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in the Workers' Comp Fund up to a maximum of 5% measured at the time of commitment.



## **APPENDIX H. Pool A Investment Account**

- 1. Fund Description.** This sub-policy applies to the Pool A Investment Account ("Pool A") administered by the State Treasurer. Pool A dispenses income and capital gains. Pool A is one of two pools holding a diverse array of individual funds ranging from agency budgets to reserve accounts. Pool A may hold equities as prescribed by law.
- 2. Philosophy and Investment Strategy.** Pool A consists of a pooling of money from many different agencies which are not specifically invested for that agency. The monies are invested throughout the spectrum of investment maturities and may hold equities as prescribed by law. While Pool A is intended to provide a more diverse array of securities including equities, it is nonetheless noted that because most of the monies invested represent appropriated funds, in addition to maintaining adequate liquidity from Pool A to meet the day-to-day cash flow needs of the State, Pool A should be managed for stability and return on investment. Cash is invested in a cash portfolio and an extended cash portfolio.
- 3. History and Purpose.** Pool A was created by the Legislature in 2017 in response to the passage of a Constitutional amendment in 2016 which allowed the Legislature to specify certain non-permanent funds that can hold investments in equities as well as fixed income securities. It is one of two pools that hold a variety of funds ranging from agency budgets to reserve and savings accounts and special purpose trusts. Pool A is intended to be moderately liquid and safely invested but also be invested for return and growth. Its income is deposited as prescribed by statute.
- 4. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.
- 5. Risk.** Pool A has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 15% with a 99% confidence level utilizing appropriate statistical modeling.
- 6. Return Expectations.** The long-term return expectations for Pool A shall be 200 basis points above inflation, as measured by the CPI.
- 7. Target Allocation and Benchmarks.** The asset allocation is restricted by State statutes to an equities cap. The target asset allocation for Pool A is as follows

	Min	Long-Term Target	Max
Broad US Equity	3.75	7.50	11.25
Small Cap US Equity	0.50	1.00	1.50
Broad International Equity	3.75	7.50	11.25
Preferred Stock	1.00	2.00	3.00
MLPs	2.50	5.00	7.50
Int. Duration Fixed Income	24.50	49.00	73.50
Bank Loans	5.00	10.00	15.00
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	4.00	8.00	12.00
Cash Equivalents	2.50	5.00	7.50

The targets established above represent the long-term asset allocation objectives for Pool A. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the funds and accounts in Pool A.

Opportunistic investments do not have a specified target allocation, as the availability of opportunities is episodic in nature, and the best opportunities tend to appear during periods of market stress. Although not specifically delineated in the target asset allocation, opportunistic investments are allowable in Pool A up to a maximum of 5% measured at the time of commitment.

## **APPENDIX I. State Agency Pool**

- 1. Fund Description.** This sub-policy applies to the State Agency Pool (the “SAP”) administered by the State Treasurer. The SAP dispenses income and capital gains. The SAP is one of two pools holding a diverse array of individual funds ranging from agency budgets to reserve accounts.
- 2. Philosophy and Investment Strategy.** The SAP consists of a pooling of money from many different agencies which are not specifically invested for that agency. The monies are invested throughout the spectrum of investment maturities; however, because most of the monies represent appropriated funds in addition to a requirement for liquidity from the SAP to meet the day-to-day cash flow needs of the State, the SAP should be managed for stability assuring that appropriated funds remain to the greatest extent possible intact for their intended purposes. Cash is invested in a cash portfolio and an extended cash portfolio.
- 3. History and Purpose.** The SAP is one of two pools that hold a variety of funds ranging from agency budgets to reserve and savings accounts and special purpose trusts. This pool is intended to be moderately liquid. Its income is deposited as prescribed by statute. The Legislature has included capital gains in addition to interest and dividends in its definition of income.
- 4. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes and to meet cash needs as determined by the State Treasurer’s Office.
- 5. Risk.** The SAP has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return. Total portfolio risk should be managed with a goal of avoiding annual losses greater than 10% with a 99% confidence level utilizing appropriate statistical modeling.
- 6. Return Expectations.** The long-term return expectations for the SAP shall be 200 basis points above inflation, as measured by the CPI.
- 7. Target Allocation and Benchmarks.** The target asset allocation for the SAP is as follows:

	Min	Long-Term Target	Max
Convertibles	2.50	5.00	7.50
Int. Duration Fixed Income	5.00	10.00	15.00
Internal Fixed Income	10.00	20.00	30.00
Low Duration Fixed Income	15.00	30.00	45.00
Bank Loans	7.50	15.00	22.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	5.00	10.00	15.00

The asset allocation is implemented and applies to the remainder of the SAP after accounting for PPIs.

The targets established above represent the long-term asset allocation objectives for the SAP. However, the State Treasurer's Office shall have the right to make periodic adjustments to the above-listed allocations as they see fit, commensurate with the economic environment, ongoing cash flow activity, and the liquidity needs of the funds and accounts in the SAP.

## **APPENDIX J. Wyoming State Treasurer's Asset Reserve ("WYO-STAR")**

- 1. Fund Description.** This sub-policy applies to the funds of WYO-STAR, a local government investment pool administered by the State Treasurer's Office.
- 2. Philosophy and Investment Strategy.** WYO-STAR administers the short-term cash deposits made with the State by local entities. The actual investments are administered to provide liquid cash reserves, placing the majority portion in a cash portfolio and the rest in an extended cash portfolio according to specified guidelines. The disbursement of interest income and return of principal to the participants is managed in the State Treasurer's Office. WYO-STAR shall pursue a short-term and extended-term, fixed income strategy designed to optimize the yield on cash by investing in eligible securities that satisfy these guidelines.
- 3. Target Allocation.** One hundred percent (100%) of WYO-STAR is comprised of short-term bonds and cash as denoted in Section 6 below entitled "Diversification/Permissible Investments".
- 4. Liquidity Requirements.** Liquidity shall be maintained to facilitate trading, to move money between asset classes, and to meet cash needs as determined by the State Treasurer's Office. The percent invested in the extended portion of WYO-STAR shall be directed by the State Treasurer's Office, consistent with Section 5 below entitled "Maturity".
- 5. Maturity.** If an instrument is subject to an unconditional put or unconditional demand feature, its final maturity shall be the earlier of the date noted on the face of the instrument as the date on which the principal amount must be paid or the date on which the principal amount of the instrument can be recovered through demand. Sinking fund securities and asset backed issues with periodic principal repayment shall be measured by their anticipated weighted average cash flows for the purpose of calculating their duration.
  - a) Cash Portfolio.** The portfolio's weighted average maturity is not to exceed 90 days. All securities must have a maximum maturity of 365 days. The maximum average cash flow weighted duration of the portfolio must not exceed 90 days. The market value of the portfolio must remain within +/- 0.5% of 1% of amortized cost.
  - b) Extended Cash Portfolio.** Maximum average cash flow weighted duration is not to exceed 3 years. Individual securities must not exceed a cash flow weighted duration of 5 years. The extended portion of WYO-STAR may not exceed 35% of the market value of the portfolio at the time of purchase.
- 6. Diversification/Permissible Investments.** WYO-STAR is permitted to purchase the following securities:
  - a) Asset-Backed Securities, limited to CMOs or pass-throughs; the collateral for which is securities issued by GNMA, FNMA, FHLMC or notes fully guaranteed as to principal and interest by the Small Business Administration. Automobile receivables and credit receivables shall also be considered permissible investments.
  - b) Repurchase Agreements.
  - c) Government Securities, including obligations of the U.S. Treasury and obligations of U.S. government agencies, bearing floating or fixed interest rates.
  - d) Currency: U.S. dollar denomination only.

7. **Risk.** WYO-STAR has a diversified asset allocation to limit the degree of uncertainty in the pursuit of return.
8. **Fully Invested.** WYO-STAR shall seek to be invested fully at the close of business on each day.
9. **Repurchase Agreements (including term repurchase agreements).** The permitted collateral for repurchase agreements (including term repurchase agreements) shall be government securities. The minimum collateral required is 102%.
10. **Benchmarks.** For the cash portfolio, the benchmark shall be the Monitored Repurchase Agreement Rate and for the cash equivalents allocation, the benchmark shall be the BofA ML 3 Mo U.S. T-Bills index. For the extended cash portfolio, the benchmark shall be an equal-weighted blend of the BofA Merrill Lynch 1-3 Year Agency, 1-3 Year Treasury, and 0-3 Year Mortgage Indices.

**April 6, 2017**

**BOARD MATTER D-4**

**ACTION:** State Investment Asset Allocation Presentation

**AUTHORITY:** W.S. 9-4-716

**ANALYSIS:**

The Board's consultant, RVK Inc., has conducted a comprehensive review to determine the best asset allocation for the State's various funds. This review was extensive this year for two reasons. First, the Treasurer's Office has determined that it is in the best interest of the State to manage each fund, including the permanent funds and the non-permanent funds, individually on a customized basis to more accurately align the assets of each fund with its liability. Second, the legislature approved the investment of five non-permanent accounts in equities as allowed under the constitutional amendment passed in 2016. The Treasurer's Office plans to implement this change through a new fund called Pool A Investment Account.

RVK will present the results of its asset allocation review to the Board. Attached are the materials for RVK's presentation.

**DIRECTOR'S RECOMMENDATION:** For Information only

**BOARD ACTION:** None

# Summary of Potential Asset Allocation & Investment Policy Changes

Wyoming State Loan & Investment Board  
*April 6, 2017*





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# Introduction



# Introduction

Periodic review of asset allocation is an important fiduciary duty as investment objectives, constraints and market conditions can change over time.

In light of this, along with the recent/potential adoption of new statutory and constitutional amendments, RVK is here to review the asset allocations of each investment pool. In this review, we will examine the following:

- Investment Pool Characteristics
- Recent/Potential Statutory & Constitutional Amendments
- Potential Long-Term Asset Allocation Changes
- For Permanent Funds, Impact of the Above on Future Purchasing Power

# Synopsis of Potential Asset Allocation Changes

The below potential asset allocation changes consider each investment pool's unique investment objectives and constraints.

## **Permanent Funds** (*PMTF, PLF, UPLF, CSPLF, Hathaway, and Higher Ed*)

- Improve the likelihood of achieving each pool's long-term return objectives, focusing on long-term total return or income-generation based on respective spending policy goals and needs.

## **State Agency Pool**

- Focus on aligning the risk profile appropriately with the needs of the constituent investors. Emphasis on risk reduction and capital preservation to help mitigate significant short-term draw downs.

## **Workers' Compensation Fund**

- Examine risk in terms of surplus volatility to help preserve the fund's fiscal health with a healthy funded status.

## **Pool A Investment Account** (*Formerly Tobacco Settlement Fund*)

- Introduce public equity and alternative investments in a thoughtful manner such that the overall risk profile remains appropriate.

# Capital Markets Assumptions





# Capital Markets Assumptions

## Philosophy

- Each year, RVK's general consulting and research teams collaborate to review the capital market environment and update long-term, forward-looking capital market (CM) expectations for each asset class utilized by our clients.
- The forecast horizon is for long-term periods over multiple market cycles, typically 10 years or more.
- The components we estimate include:
  - Return
  - Risk (volatility of returns)
  - Correlation (relationship of asset class returns with all other asset classes)
- Return assumptions are generally index-based and assume no investment manager alpha.
- Annual updates are typically gradual and incorporate historical performance, current valuations, as well as the overall economic environment.

# RVK 2017 Capital Market Assumptions

## Year-over-Year Changes

Asset Class	2017				2016				Change (2017-2016)			
	Return (Arithmetic)	Standard Deviation	Return (Compound)	Return/Risk Ratio	Return (Arithmetic)	Standard Deviation	Return (Compound)	Return/Risk Ratio	Return (Arithmetic)	Standard Deviation	Return (Compound)	Return/Risk Ratio
Large/Mid Cap US Equity	7.00%	17.75%	5.56%	0.39	7.00%	17.75%	5.56%	0.39	--	--	--	--
Small Cap US Equity	7.50%	21.25%	5.46%	0.35	7.75%	21.25%	5.71%	0.36	-0.25%	--	-0.25%	-0.01
Broad US Equity	7.05%	17.80%	5.60%	0.40	7.05%	17.80%	5.60%	0.40	--	--	--	--
Broad International Equity	8.85%	20.65%	6.94%	0.43	8.85%	20.60%	6.95%	0.43	--	+0.05%	-0.01%	0.00
Global Equity	7.90%	18.30%	6.38%	0.43	7.90%	18.35%	6.37%	0.43	--	-0.05%	+0.01%	0.00
MLPs	8.50%	22.00%	6.34%	0.39	9.00%	22.00%	6.85%	0.41	-0.50%	--	-0.51%	-0.02
Preferred Stock	5.75%	13.25%	4.93%	0.43	5.75%	13.25%	4.93%	0.43	--	--	--	--
Low Duration Fixed Income	2.50%	3.50%	2.44%	0.71	2.50%	3.50%	2.44%	0.71	--	--	--	--
Intermediate Duration Fixed Income	3.50%	6.00%	3.33%	0.58	3.50%	6.00%	3.33%	0.58	--	--	--	--
Long Duration Fixed Income	4.00%	11.50%	3.37%	0.35	4.25%	11.50%	3.62%	0.37	-0.25%	--	-0.25%	-2.17%
TIPS	3.75%	6.25%	3.56%	0.60	4.00%	6.25%	3.81%	0.64	-0.25%	--	-0.25%	-0.04
High Yield	6.00%	15.00%	4.95%	0.40	6.50%	15.00%	5.46%	0.43	-0.50%	--	-0.50%	-0.03
Bank Loans	5.25%	10.00%	4.78%	0.53	5.25%	10.00%	4.78%	0.53	--	--	--	--
EMD (Local Currency)	6.75%	12.50%	6.03%	0.54	6.75%	12.50%	6.03%	0.54	--	--	--	--
Convertibles	5.80%	13.70%	4.92%	0.42	5.80%	13.70%	4.92%	0.42	--	--	--	--
Core Real Estate	6.25%	12.50%	5.52%	0.50	6.50%	12.50%	5.77%	0.52	-0.25%	--	-0.25%	-0.02
Non-Core Real Estate	9.25%	22.50%	7.00%	0.41	9.50%	22.50%	7.26%	0.42	-0.25%	--	-0.25%	-0.01
Diversified Hedge Funds	6.25%	9.50%	5.83%	0.66	6.50%	9.50%	6.08%	0.68	-0.25%	--	-0.25%	-0.03
Private Equity	10.00%	25.50%	7.16%	0.39	10.25%	25.50%	7.41%	0.40	-0.25%	--	-0.26%	-0.01
Commodities	5.75%	19.75%	3.95%	0.29	6.00%	19.75%	4.21%	0.30	-0.25%	--	-0.26%	-0.01
US Inflation	2.50%	3.00%	2.46%	0.83	2.50%	3.00%	2.46%	0.83	--	--	--	--
Cash Equivalents	2.25%	3.00%	2.21%	0.75	2.25%	3.00%	2.21%	0.75	--	--	--	--

Indicates a favorable change to the assumption from 2016 to 2017  
 Indicates an unfavorable change to the assumption from 2016 to 2017

Blue highlighted cells indicate values are being calculated based on a roll up of underlying asset classes.

Broad US Equity is a combination of 92.6% Large/Mid Cap US Equity and 7.3% Small Cap US Equity.

Broad International Equity is a combination of 68.5% Dev'd Large/Mid Cap Int'l Equity, 10.8% Dev'd Small Cap Int'l Equity, and 20.7% Emerging Markets Equity.

Global Equity is a combination of 52.9% Broad US Equity and 47.1% Broad International Equity.

Convertibles is a combination of 65% Broad US Equity and 35% Intermediate Duration Fixed Income.

# Review of Individual Investment Pools





# Investment Pool Summary Matrix

	Permanent Mineral Trust Fund	Permanent Land Fund	University Permanent Land Fund	Common School Permanent Land Fund	Hathaway Scholarship Endowment Fund	Higher Education Endowment Fund	Workers Compensation Fund	Tobacco Settlement Fund	State Agency Pool
<b>Fund Type</b>	Permanent Fund	Permanent Fund	Permanent Fund	Permanent Fund	Permanent Fund	Permanent Fund	Permanent Fund	Non-Permanent Fund	Non-Permanent Fund
<b>Fund Horizon</b>	Long-Term	Long-Term	Long-Term	Long-Term Total Return or Income Focus	Long-Term Total Return or Income Focus	Income Focus	N/A	N/A	N/A
<b>Potential Permanent Fund Asset Allocation Grouping</b>	Long-Term Total Return	Long-Term Total Return	Long-Term Total Return	Long-Term Total Return or Income Focus	Long-Term Total Return or Income Focus	Income Focus	N/A	N/A	N/A
<b>Market Value as of 12/31/2016</b>	\$7,234,348,727	\$188,193,016	\$20,967,729	\$3,386,099,894	\$569,796,087	\$117,594,887	\$1,895,049,150	\$82,907,477	\$5,575,537,356
<b>Percentage of the Total Fund MV</b>	37.9%	1.0%	0.1%	17.8%	3.0%	0.6%	9.9%	0.4%	29.2%
<b>Liquidity &amp; Investment Objectives</b>									
<b>Main Objective</b>	Produce maximized long-term investment return.	Produce maximized long-term investment return.	Produce maximized long-term investment return.	Produce maximized long-term investment return.	Produce maximized long-term investment return.	Produce maximized long-term investment return.	The fund must be managed for the long-term to produce a situation in which the fund is self-funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions.	Managed for investment of payments received pursuant to the Master Settlement Agreement.	Produce an investment return so that State agencies have the advantage of better income from their invested funds, while maintaining liquidity.
<b>Primary Investment Goal</b>	Capital appreciation, total return, and protection against inflation.	Capital appreciation, total return, and protection against inflation.	Capital appreciation, total return, and protection against inflation.	Capital appreciation, total return, and protection against inflation.	Capital appreciation, total return, and protection against inflation.	Capital appreciation, total return, and protection against inflation.	Safety of capital, yield, and capital appreciation.	Safety of capital, yield and liquidity.	Safety of capital, yield and liquidity.
<b>Treatment of income and capital gains</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.	This fund retains income and capital gains.	This fund dispenses income and capital gains.	This fund dispenses income and capital gains.
<b>Noted Liquidity Constraints</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.	Liquidity must be maintained to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.	Liquidity must be maintained to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.	Liquidity must be maintained to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.
<b>Funding</b>									
<b>Funding Source</b>	Constitutional and statutory mineral severance tax revenues, and occasional direct legislative appropriations.	Royalties, leases, fees and permits, and other revenue generated from State lands.	Royalties, leases, fees and permits, and other revenue generated from State lands.	Royalties, leases, fees and permits, and other revenue generated from State lands.	Federal mineral royalties.	Federal mineral royalties.	Employer premiums.	Settlement proceeds received under the 1998 Master Settlement Agreement between States and tobacco companies.	Monies from all other State funds pooled for investment.
<b>Spending Policy</b>									
<b>Spending Policy</b>	Maximum of 5% of the five-year rolling average MV, calculated on the first day of the fiscal year.	Not available to RVK.	Not available to RVK.	Maximum of 5% of the five-year rolling average MV, calculated on the first day of the fiscal year.	Investment earnings are transferred to the Expenditure Account.	Maximum of 5% of the five-year rolling average MV, calculated on the first day of the fiscal year.	Exact cash level shall be determined annually by the WC staff and dependent on liquidity needs.	Investment earnings are put towards health improvement programs.	Income is distributed back to a specific state agency or to the general fund.
<b>Guaranteed Annual Spending Policy Amount</b>	2.50%	N/A	N/A	2.50%	N/A	N/A	N/A	N/A	N/A
<b>Equity Allocation</b>									
<b>Equity Maximum Allocation</b>	55%	55%	55%	55%	55%	55%	45%	0%	0%
<b>Current Equity Target Allocation</b>	50%	50%	50%	50%	45%	45%	30%	0%	0%
<b>Current Return Expectation</b>									
<b>Long-Term Return Expectation</b>	CPI + 4%	CPI + 4%	CPI + 4%	CPI + 4%	CPI + 4%	CPI + 4%	CPI + 3%	CPI + 2.25%	CPI + 2%
<b>Current Policy Target</b>									
<b>Probability of Achieving Long-Term Return Expectation Over 10 Years</b>	36%	36%	36%	36%	31%	31%	37%	29%	29%
<b>Median Real Return Over 10 Years</b>	3.03%	3.06%	3.06%	3.03%	2.76%	2.76%	2.33%	1.42%	1.30%
<b>Estimated Yield as of 12/31/2016</b>	2.89%	2.89%	2.89%	2.89%	3.02%	3.02%	3.05%	3.24%	2.82%

# State Agency Pool:

## *Potential Asset Allocation Changes*

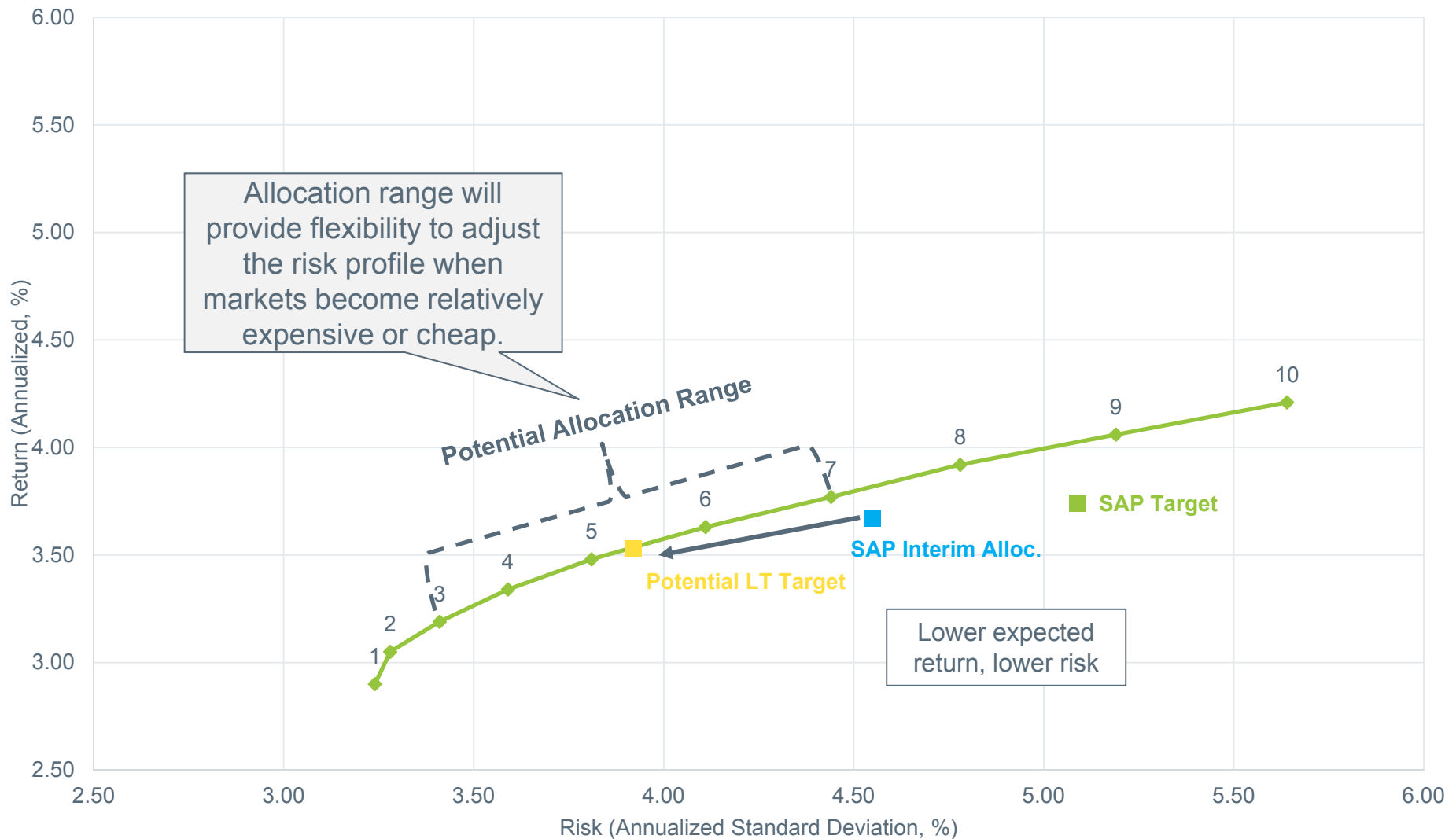


# State Agency Pool

<b>Purpose:</b>	This fund dispenses income and capital gains. Pooling of money from many different agencies which are not specifically invested for that agency.
<b>Fund Horizon:</b>	Non-Permanent Fund
<b>Return Objective:</b>	Current: CPI + 2% <i>Potential: CPI + 1%</i>
<b>Primary Investment Goal:</b>	Safety of capital, yield and liquidity.
<b>Spending Policy:</b>	Income is distributed back to a specific state agency or to the state general fund.
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.
<b>Investment Constraints:</b>	Cannot invest in "common stocks". "Common stocks" is currently interpreted to include all public equity and alternative investments.

# Potential Asset Allocation Changes: *State Agency Pool*

## Efficient Frontier



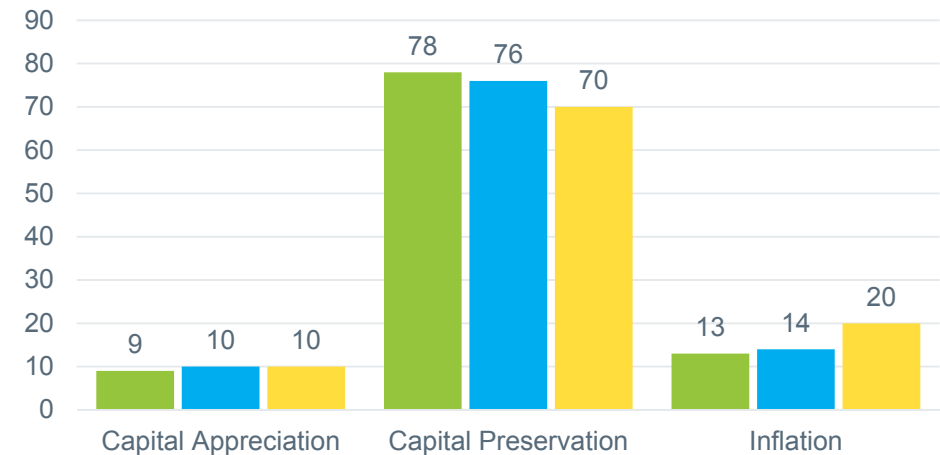
# Potential Asset Allocation Changes:

## State Agency Pool

### Key Observations:

- The Potential LT Target portfolio replaces some of the exposure to intermediate duration fixed income with low duration fixed income and internally managed fixed income.
- Exposure to inflationary assets increases, while exposure to capital preservation thematic allocation declines.

Thematic Allocation (%)



	SAP Target	SAP Interim Alloc.	Difference	Potential LT Target	Difference
<b>Total Fixed Income &amp; Cash</b>	<b>100.0</b>	<b>100.0</b>	--	<b>100.0</b>	--
Convertibles	3.0	3.0	--	5.0	+2.0
Int. Duration Fixed Income	65.4	29.1	-36.3	10.0	-55.4
Internal Fixed Income	3.6	37.1	+33.5	20.0	+16.4
Low Duration Fixed Income	0.0	0.0	--	30.0	+30.0
High Yield Fixed Income	1.8	4.0	+2.2	0.0	-1.8
Bank Loans	5.5	12.0	+6.5	15.0	+9.5
EMD (Local)	4.6	3.0	-1.6	5.0	+0.4
TIPS	7.2	2.1	-5.1	5.0	-2.2
Cash Equivalents	9.0	9.8	+0.8	10.0	+1.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	--	<b>100.0</b>	--

Allocations may not sum exactly to totals due to rounding. The current credit fixed income portfolio is split out into its underlying components.

# Potential Asset Allocation Changes:

## State Agency Pool

The Potential LT Target portfolio significantly reduces downside and interest rate risk, while earning a similar yield.

	SAP Target	SAP Interim Alloc.	Difference	Potential LT Target	Difference
Expected Return (%)	3.74	3.67	-0.07	3.53	-0.21
Risk (Standard Deviation, %)	5.09	4.55	-0.54	3.92	-1.17
Return (Compound, %)	3.62	3.57	-0.05	3.46	-0.16
Return/Risk Ratio	0.73	0.81	+0.08	0.90	+0.17
RVK Liquidity Metric	83	80	-3	80	-3
Estimated Duration (Int. Rate Risk)	4.94	3.73	-1.21	2.72	-2.22
Estimated Yield (%)	2.82	2.92	+0.10	2.66	-0.16
<b>Portfolio Stress Testing (Monte Carlo Results)</b>					
1 Year Max Drawdown (2008-Like Event)	-\$579 M (-10.39%)	-\$543 M (-9.74%)	+\$36 M (+0.65%)	-\$463 M (-8.30%)	+\$116 M (+2.09%)
Median 1 Year Return	+\$230 M (+4.12%)	+\$226 M (+4.06%)	-\$4 M (-0.06%)	+\$215 M (+3.85%)	-\$15 M (-0.27%)
<b>Probability of Achieving Various Real Return Targets</b>					
1.00% Real Return Over 10 Years	58%	56%	-2%	52%	-6%
1.50% Real Return Over 10 Years	45%	42%	-3%	38%	-7%
2.00% Real Return Over 10 Years	32%	30%	-2%	24%	-8%

Differences may not sum exactly due to rounding. Expected returns do not assume active manager alpha. Estimated yields are a weighted average of the underlying asset class benchmarks as of 12/31/16. 1 Year Max Drawdown reflects the 1<sup>st</sup> percentile results. Dollar amounts are based on an initial portfolio value of \$5,736 M.

# Efficient Frontier: State Agency Pool

	Min	Max	1	2	3	4	5	6	7	8	9	10	SAP Target	SAP Interim Alloc.	Potential LT Target
Convertibles	0	5	0	2	5	5	5	5	5	5	5	5	3.0	3.0	5.0
Int. Duration Fixed Income	0	100	0	0	0	0	3	17	27	35	31	38	65.4	29.1	10.0
High Yield Fixed Income	0	10	0	0	0	0	0	0	2	3	8	10	1.8	4.0	0.0
Bank Loans	0	15	12	15	15	15	15	15	15	15	15	15	5.5	12.0	15.0
Emerging Markets Debt (Local)	0	5	0	0	0	2	5	5	5	5	5	5	4.6	3.0	5.0
TIPS	0	7	0	0	4	7	7	7	7	7	7	7	7.2	2.1	5.0
Custom Internal Fixed Income	20	60	20	20	20	20	20	20	20	20	20	20	3.6	37.1	20.0
Low Duration Fixed Income	0	60	58	53	46	41	35	21	10	0	0	0	0.0	0.0	30.0
Cash Equivalents	0	10	10	10	10	10	10	10	10	10	9	0	9.0	9.8	10.0
Total			100	100	100	100	100	100	100	100	100	100	100.0	100.0	100.0
Total Fixed Income & Cash			100	100	100	100	100	100	100	100	100	100	100	100	100
Capital Appreciation			0	2	5	7	10	10	12	13	18	20	9	10	10
Capital Preservation			88	83	76	71	68	68	66	65	60	58	78	76	70
Alpha			0	0	0	0	0	0	0	0	0	0	0	0	0
Inflation			12	15	19	22	22	22	22	22	22	22	13	14	20
Expected Return			2.90	3.05	3.19	3.34	3.48	3.63	3.77	3.92	4.06	4.21	3.74	3.67	3.53
Risk (Standard Deviation)			3.24	3.28	3.41	3.59	3.81	4.11	4.44	4.78	5.19	5.64	5.09	4.55	3.92
Return (Compound)			2.85	3.00	3.13	3.28	3.41	3.55	3.68	3.81	3.93	4.06	3.62	3.57	3.46
Return/Risk Ratio			0.90	0.93	0.94	0.93	0.91	0.88	0.85	0.82	0.78	0.75	0.73	0.81	0.90
RVK Expected Eq Beta (LCUS Eq = 1)			0.06	0.07	0.09	0.10	0.11	0.11	0.12	0.14	0.16	0.17	0.10	0.11	0.11
RVK Liquidity Metric (T-Bills = 100)			82	81	81	81	80	80	79	79	77	75	83	80	80
Estimated Yield (%)			2.31	2.40	2.34	2.40	2.58	2.70	2.89	2.98	3.18	3.47	2.82	2.92	2.66
Estimated Duration of Fixed Income & Cash			1.91	1.86	2.10	2.34	2.56	3.11	3.57	3.89	3.86	4.34	4.94	3.73	2.72



# Permanent Mineral Trust Fund: *Potential Asset Allocation Changes*

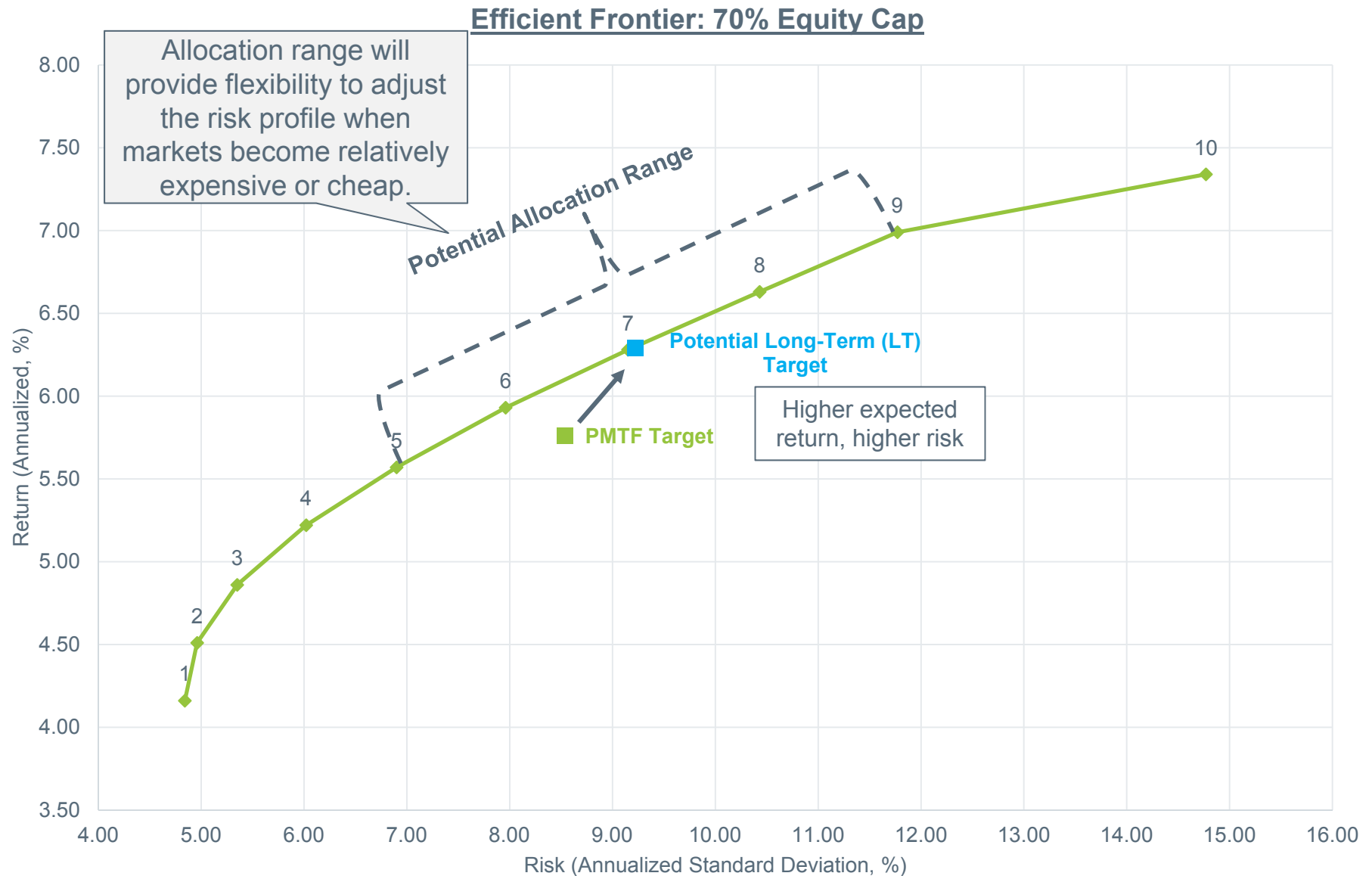




# Permanent Mineral Trust Fund

<b>Purpose:</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.
<b>Fund Horizon:</b>	Permanent Fund (Perpetual)
<b>Return Objective:</b>	Current: CPI + 4% <i>Potential: CPI + 3.5%</i>
<b>Primary Investment Goal:</b>	Capital appreciation, total return, and protection against inflation.
<b>Spending Policy:</b>	<p>Maximum of 5% of trailing 5-year average market value.</p> <ul style="list-style-type: none"><li>- 2.5% of earnings guaranteed to the General Fund.</li><li>- Up to 2.5% of remaining earnings will be split evenly amongst the Legislative Stabilization Reserve Account (“LSRA”) and Strategic Investments and Projects Account (“SIPA”).</li></ul> <p>Earnings in excess of 5% are appropriated to the reserve account. When the reserve account balance exceeds 90% of the spending policy amount, the excess funds are transferred back to the corpus.</p>
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.
<b>Investment Constraints:</b>	<p>Maximum of 55% may be invested in “common stocks”.</p> <p>“Common stocks” is currently interpreted to include all public equity and alternative investments.</p>

# Potential Asset Allocation Changes: *Permanent Mineral Trust Fund*



Group Constraints: (i) Broad US Equity must be at least 80% of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total equity (including MLPs, private equity, core and value-added real estate, and diversified hedge funds) must not exceed 70% of the total portfolio. (iv) Total Real Estate must not exceed 10% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total Real Estate.

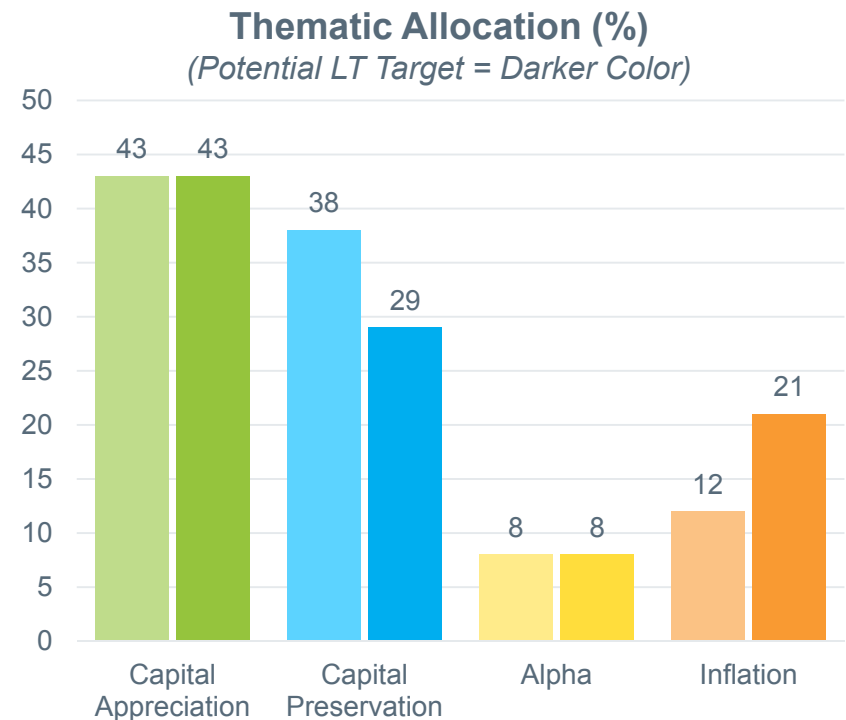
# Potential Asset Allocation Changes:

## *Permanent Mineral Trust Fund*

	PMTF Target	Potential LT Target	Difference
<b>Total Public Equity</b>	<b>31.0</b>	<b>26.0</b>	<b>-5.0</b>
Broad US Equity	16.7	10.0	-6.7
Small Cap US Equity	1.3	3.0	+1.7
Broad Int'l Equity	13.1	13.0	-0.1
<b>Total Alternatives</b>	<b>19.0</b>	<b>30.0</b>	<b>+11.0</b>
MLPs	0.0	4.5	+4.5
Private Equity	4.0	8.0	+4.0
Core Real Estate	5.2	6.0	+0.8
Non-Core Real Estate	2.3	4.0	+1.7
Diversified Hedge Funds	7.5	7.5	--
<b>Total Fixed Income &amp; Cash</b>	<b>50.0</b>	<b>44.0</b>	<b>-6.0</b>
Convertibles	2.0	0.0	-2.0
Int. Duration Fixed Income	35.2	29.0	-6.2
High Yield Fixed Income	0.9	0.0	-0.9
Bank Loans	2.8	5.0	+2.2
EMD (Local)	2.4	5.0	+2.6
TIPS	3.7	5.0	+1.3
Cash Equivalents	3.0	0.0	-3.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>--</b>

### Key Observations:

- The Potential LT Target portfolio increases the allocation to alternatives from 19% to 30%.
- Exposure to inflationary assets increases, while exposure to capital preservation thematic allocation declines.



Allocations may not sum exactly to totals due to rounding. PMTF target allocation to global equity is assumed to be 50% Broad US Equity and 50% Broad Int'l Equity. The current credit fixed income portfolio is split out into its underlying components.

# Potential Asset Allocation Changes:

## *Permanent Mineral Trust Fund*

The Potential LT Target portfolio would increase the probability of achieving the current long-term expected return target to 44% over a 10 year period.

	PMTF Target	Potential LT Target	Difference
Expected Return (%)	5.76	6.29	+0.53
Risk (Standard Deviation, %)	8.54	9.22	+0.68
Return (Compound, %)	5.42	5.89	+0.47
Return/Risk Ratio	0.67	0.68	+0.01
Estimated Duration (Int. Rate Risk) (Fixed Income & Cash Only)	5.43 (50% of Total)	5.34 (44% of Total)	-0.09 (-6% of Total)
Estimated Yield (%)	2.89	3.22	+0.33
<b>Portfolio Stress Testing (Monte Carlo Results)</b>			
1 Year Max Drawdown (2008-Like Event)	-\$1,414 M (-19.55%)	-\$1,495 M (-20.67%)	-\$81 M (-1.12%)
Median 1 Year Return	+\$448 M (+6.19%)	+\$483 M (+6.68%)	+\$35 M (+0.49%)
<b>Probability of Achieving Various Real Return Targets</b>			
3.0% Real Return Over 10 Years	51%	59%	+8%
3.5% Real Return Over 10 Years	43%	51%	+8%
4.0% Real Return Over 10 Years	36%	44%	+8%

### Range of Monte Carlo Stress Test Results

1<sup>st</sup> & 99<sup>th</sup> Percentiles = Darker Color  
5<sup>th</sup> to 95<sup>th</sup> Percentiles = Lighter Color

#### PMTF Target



#### Potential LT Target



Differences may not sum exactly due to rounding. Expected returns do not assume active manager alpha. Estimated yields are a weighted average of the underlying asset class benchmarks as of 12/31/16. 1 Year Max Drawdown reflects the 1<sup>st</sup> percentile results. Dollar amounts are based on an initial portfolio value of \$7,234 M.

# Efficient Frontier:

## Permanent Mineral Trust Fund

	Min	Max	1	2	3	4	5	6	7	8	9	10	PMTF Target	Potential LT Target
Broad US Equity	0	50	0	0	0	1	4	7	10	13	16	23	16.7	10.0
Small Cap US Equity	0	10	0	0	0	0	1	2	3	3	4	6	1.3	3.0
Broad International Equity	0	50	0	0	0	1	5	9	13	17	20	29	13.1	13.0
MLPs	0	5	0	2	4	5	5	5	5	5	5	5	0.0	4.5
Private Equity	0	8	1	3	5	8	8	8	8	8	8	8	4.0	8.0
Core Real Estate	0	10	9	6	6	6	6	6	6	6	6	0	5.2	6.0
Non-Core Real Estate	0	4	1	4	4	4	4	4	4	4	4	0	2.3	4.0
Diversified Hedge Funds	0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0	7.5	7.5
Convertibles	0	5	3	2	0	0	0	0	0	0	0	5	2.0	0.0
Int. Duration Fixed Income	0	100	64	60	53	49	45	37	29	21	13	5	35.2	29.0
High Yield Fixed Income	0	5	0	0	0	0	0	0	0	0	2	5	0.9	0.0
Bank Loans	0	5	5	5	5	5	5	5	5	5	5	5	2.8	5.0
Emerging Markets Debt (Local)	0	5	0	0	5	5	5	5	5	5	5	5	2.4	5.0
TIPS	0	5	5	5	5	5	5	5	5	5	5	5	3.7	5.0
Cash Equivalents	0	5	5	5	5	3	0	0	0	0	0	0	3.0	0.0
Total			100	100	100	100	100	100	100	100	100	100	100	100
Total Fixed Income & Cash			82	77	73	67	60	52	44	36	30	30	50	44
Capital Appreciation			4	9	14	19	26	34	42	50	59	80	43	43
Capital Preservation			69	65	58	52	45	37	29	21	13	5	38	29
Alpha			8	8	8	8	8	8	8	8	8	0	8	8
Inflation			19	18	20	21	21	21	21	21	21	15	12	21
Expected Return			4.16	4.51	4.86	5.21	5.57	5.92	6.27	6.63	6.98	7.33	5.76	6.29
Risk (Standard Deviation)			4.84	4.96	5.35	6.02	6.89	7.95	9.14	10.41	11.75	14.75	8.54	9.22
Return (Compound)			4.05	4.39	4.72	5.04	5.35	5.62	5.88	6.13	6.34	6.33	5.42	5.89
Return/Risk Ratio			0.86	0.91	0.91	0.87	0.81	0.74	0.69	0.64	0.59	0.50	0.67	0.68
RVK Expected Eq Beta (LCUS Eq = 1)			0.12	0.15	0.18	0.24	0.31	0.38	0.45	0.52	0.59	0.76	0.44	0.45
RVK Liquidity Metric (T-Bills = 100)			74	71	68	66	66	66	67	67	67	77	74	67
Estimated Yield (%)			3.13	3.17	3.41	3.36	3.34	3.30	3.26	3.21	3.26	3.04	2.89	3.22
Estimated Duration of Fixed Income & Cash			5.46	5.47	5.49	5.49	5.49	5.42	5.34	5.22	4.96	4.19	5.43	5.34

Group Constraints: (i) Broad US Equity must be at least 80% of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total equity (including MLPs, private equity, core and value-added real estate, and diversified hedge funds) must not exceed 70% of the total portfolio. (iv) Total Real Estate must not exceed 10% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total Real Estate.

# Remaining Permanent Funds:

## *Potential Asset Allocation Changes*





# Potential Grouping of Permanent Funds

Although each Permanent Fund has unique objectives, there is potential to group them into two buckets for purposes of asset allocation.

## 1. Long-Term Total Return Focus

- Example: Permanent Mineral Trust Fund
- Emphasis on maximizing total return over the long-term with an appropriate level of risk, while meeting annual spending needs.
- Higher long-term total return and corpus growth.
- Works best under a sustainable spending rate with a guaranteed amount that is not higher than the natural rate of income

## 2. Income Focus

- Example: Higher Education Endowment Fund
- Emphasis on generating sufficient levels of income to meet annual spending needs.
  - Secondary focus on maximizing total return over the long-term with an appropriate level of risk
- Lower long-term total return and corpus growth.
- Appropriate for increasing the natural rate of income due to higher guaranteed annual spending amounts.
- Note of caution: Lower probability of preserving long-term purchasing power

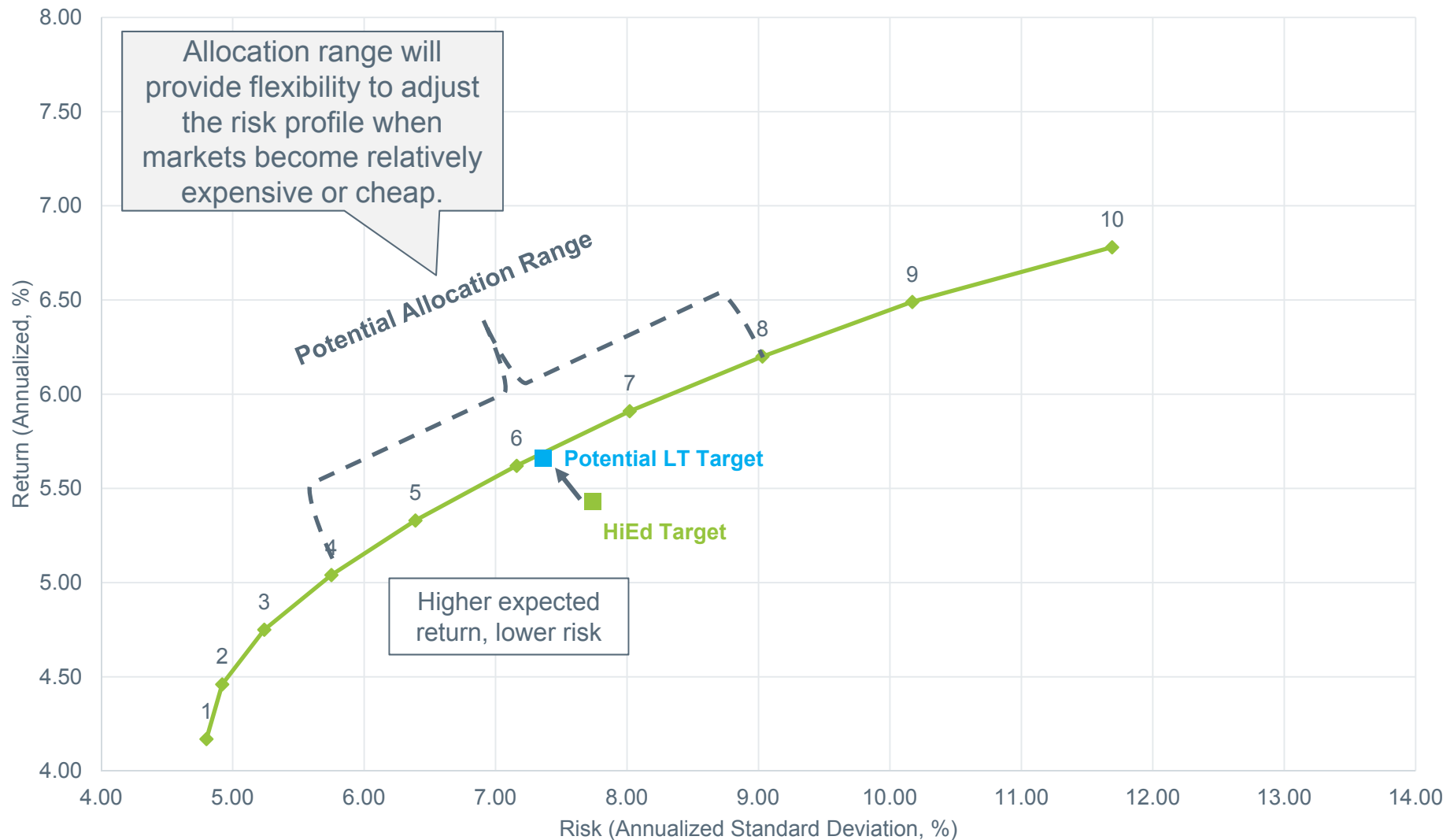
# Excellence in Higher Education Endowment Fund

<b>Purpose:</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.
<b>Fund Horizon:</b>	Permanent Fund (Perpetual)
<b>Return Objective:</b>	Current: CPI + 4% <i>Potential: CPI + 3%</i>
<b>Primary Investment Goal:</b>	Capital appreciation, total return, and protection against inflation.
<b>Spending Policy:</b>	<p>Maximum of 5% of trailing 5-year average market value.</p> <ul style="list-style-type: none"><li>- 2/3 of investment earnings will be transferred to the University of Wyoming.</li><li>- 1/3 of investment earnings will be transferred equally to 7 community colleges.</li></ul> <p>Earnings in excess of 5% are appropriated to the reserve account. When the reserve account balance exceeds 75% of the spending policy amount, the excess funds are transferred back to the corpus.</p>
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.
<b>Investment Constraints:</b>	<p>Maximum of 55% may be invested in “common stocks”.</p> <p>“Common stocks” is currently interpreted to include all public equity and alternative investments.</p>



# Potential Asset Allocation Changes: *Excellence in Higher Education Endowment Fund*

## Efficient Frontier: 70% Equity Cap



Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total equity (including MLPs, private equity, core and value-added real estate, and diversified hedge funds) must not exceed 70% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total Real Estate.

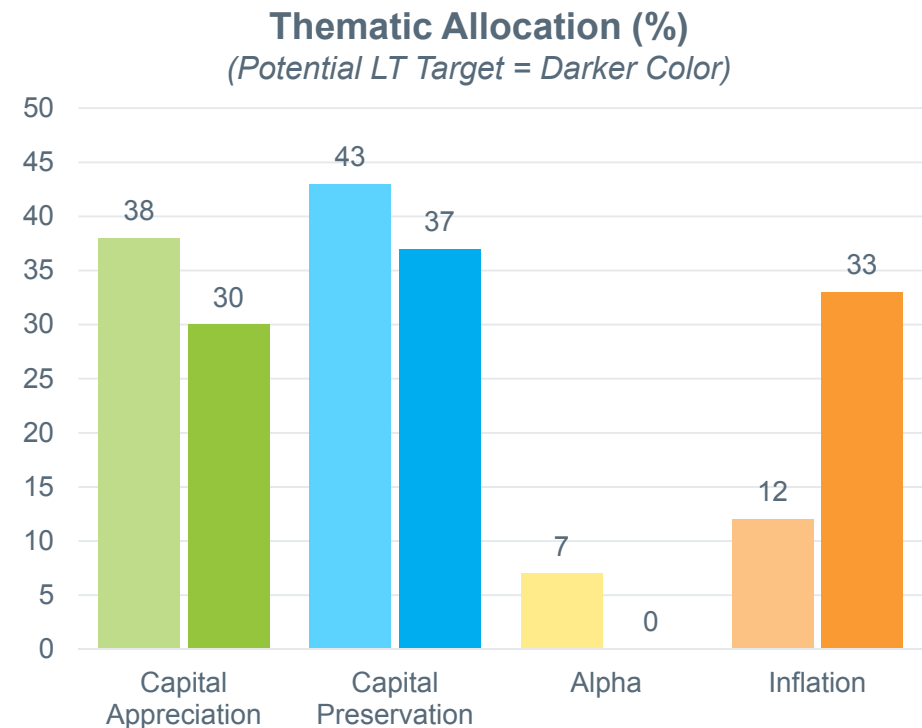
# Potential Asset Allocation Changes:

## *Excellence in Higher Education Endowment Fund*

	HiEd Target	Potential LT Target	Difference
<b>Total Public Equity</b>	<b>30.4</b>	<b>21.0</b>	<b>-9.4</b>
Broad US Equity	16.4	8.0	-8.4
Small Cap US Equity	1.3	2.0	+0.7
Broad Int'l Equity	12.7	9.0	-3.7
Preferred Stock	0.0	2.0	+2.0
<b>Total Alternatives</b>	<b>14.6</b>	<b>23.0</b>	<b>+8.4</b>
MLPs	0.0	6.0	+6.0
Core Real Estate	5.2	15.0	+9.8
Non-Core Real Estate	2.1	2.0	-0.1
Diversified Hedge Funds	7.3	0.0	-7.3
<b>Total Fixed Income &amp; Cash</b>	<b>55.0</b>	<b>56.0</b>	<b>+1.0</b>
Convertibles	2.0	0.0	-2.0
Int. Duration Fixed Income	37.7	37.0	-0.7
High Yield Fixed Income	1.0	0.0	-1.0
Bank Loans	3.0	12.0	+9.0
EMD (Local)	2.5	7.0	+4.5
TIPS	3.9	0.0	-3.9
Cash Equivalents	5.0	0.0	-5.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>--</b>

### Key Observations:

- The Potential LT Target portfolio increases the allocation to alternatives from 15% to 23%.
- Exposure to inflationary assets increases, while exposure to other thematic allocations declines.



Allocations may not sum exactly to totals due to rounding. HiEd target allocation to global equity is assumed to be 50% Broad US Equity and 50% Broad Int'l Equity. The current credit fixed income portfolio is split out into its underlying components.

# Potential Asset Allocation Changes:

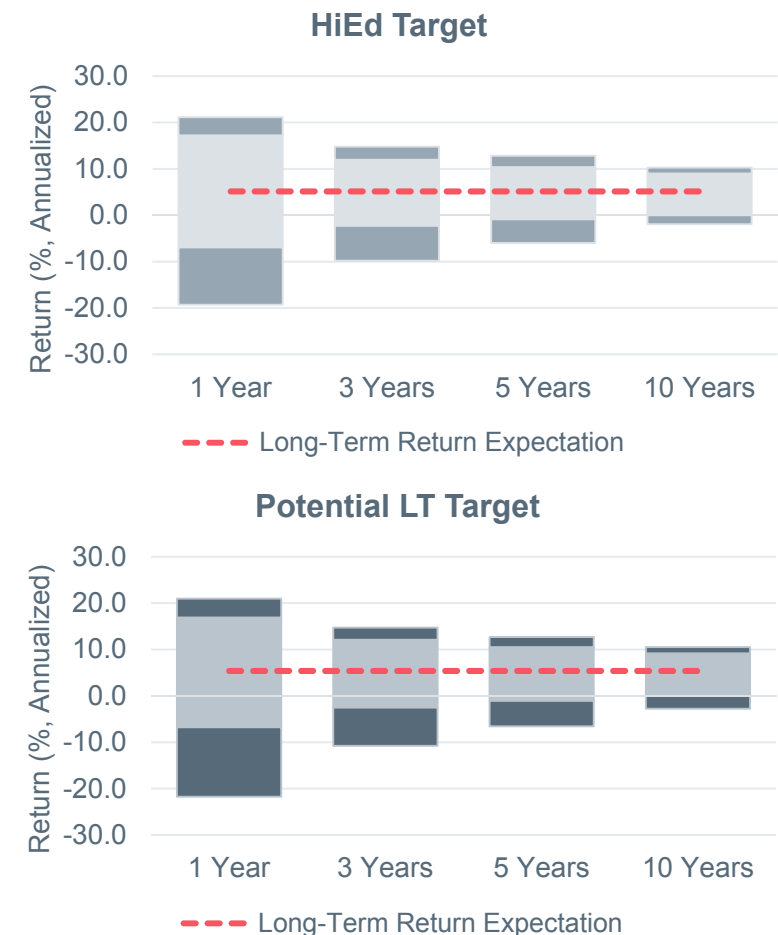
## *Excellence in Higher Education Endowment Fund*

The Potential LT Target portfolio would increase the probability of achieving the current long-term expected return target to 35% over a 10 year period.

	HiEd Target	Potential LT Target	Difference
Expected Return (%)	5.43	5.66	+0.23
Risk (Standard Deviation, %)	7.74	7.36	-0.38
Return (Compound, %)	5.15	5.40	+0.25
Return/Risk Ratio	0.70	0.77	+0.07
Estimated Duration (Int. Rate Risk) (Fixed Income & Cash Only)	5.42 (55% of Total)	4.52 (56% of Total)	-0.90 (+1% of Total)
Estimated Yield (%)	3.02	4.12	+1.10
<b>Portfolio Stress Testing (Monte Carlo Results)</b>			
1 Year Max Drawdown (2008-Like Event)	-\$22.1 M (-18.80%)	-\$23.5 M (-19.96%)	-\$1.4 M (-1.16%)
Median 1 Year Return	+\$6.7 M (+5.67%)	+\$7.3 M (+6.22%)	+\$0.6 M (+0.55%)
<b>Probability of Achieving Various Real Return Targets</b>			
3.0% Real Return Over 10 Years	46%	50%	+4%
3.5% Real Return Over 10 Years	39%	42%	+3%
4.0% Real Return Over 10 Years	31%	35%	+4%

### Range of Monte Carlo Stress Test Results

1<sup>st</sup> & 99<sup>th</sup> Percentiles = Darker Color  
5<sup>th</sup> to 95<sup>th</sup> Percentiles = Lighter Color



Differences may not sum exactly due to rounding. Expected returns do not assume active manager alpha. Estimated yields are a weighted average of the underlying asset class benchmarks as of 12/31/16. 1 Year Max Drawdown reflects the 1<sup>st</sup> percentile results. Inflation is assumed to be 3.50% (2.50% standard assumption + 1.00% additional inflation of higher education prices). Dollar amounts are based on an initial portfolio value of \$117.6 M.

# Efficient Frontier:

## *Excellence in Higher Education Endowment Fund*

	Min	Max	1	2	3	4	5	6	7	8	9	10	HiEd Target	Potential LT Target
Broad US Equity	0	15	0	0	0	2	4	6	8	12	15	15	16.4	8.0
Small Cap US Equity	0	5	0	0	0	1	1	2	3	4	5	5	1.3	2.0
Broad International Equity	0	10	0	0	0	3	5	8	10	10	10	10	12.7	9.0
Preferred Stock	0	10	0	0	0	0	0	2	6	10	10	10	0.0	2.0
MLPs	0	7	0	1	4	7	7	7	7	7	7	7	0.0	6.0
Core Real Estate	0	15	15	15	15	15	15	15	15	15	15	15	5.2	15.0
Non-Core Real Estate	0	2	0	2	2	2	2	2	2	2	2	2	2.1	2.0
Diversified Hedge Funds	0	0	0	0	0	0	0	0	0	0	0	0	7.3	0.0
Convertibles	0	10	2	3	4	0	0	0	0	0	1	10	2.0	0.0
Int. Duration Fixed Income	0	100	63	56	48	44	44	36	28	19	9	0	37.7	37.0
High Yield Fixed Income	0	15	0	0	0	0	0	0	0	0	4	15	1.0	0.0
Bank Loans	0	15	15	15	15	15	15	15	15	15	15	4	3.0	12.0
Emerging Markets Debt (Local)	0	7	0	3	7	7	7	7	7	7	7	7	2.5	7.0
TIPS	0	0	0	0	0	0	0	0	0	0	0	0	3.9	0.0
Cash Equivalents	0	5	5	5	5	5	0	0	0	0	0	0	5.0	0.0
Total			100	100	100	100	100	100	100	100	100	100	100.0	100.0
Total Fixed Income & Cash			85	82	79	71	66	58	50	41	36	36	55	56
Capital Appreciation			2	8	13	15	19	27	35	44	54	74	38	30
Capital Preservation			68	61	53	49	44	36	28	19	9	0	43	37
Alpha			0	0	0	0	0	0	0	0	0	0	7	0
Inflation			30	31	34	37	37	37	37	37	37	26	12	33
Expected Return			4.17	4.46	4.75	5.04	5.33	5.62	5.91	6.20	6.49	6.78	5.43	5.66
Risk (Standard Deviation)			4.80	4.92	5.24	5.75	6.39	7.16	8.02	9.03	10.17	11.69	7.74	7.36
Return (Compound)			4.06	4.34	4.62	4.88	5.14	5.38	5.61	5.82	6.01	6.15	5.15	5.40
Return/Risk Ratio			0.87	0.91	0.91	0.88	0.83	0.78	0.74	0.69	0.64	0.58	0.70	0.77
RVK Expected Eq Beta (LCUS Eq = 1)			0.11	0.14	0.17	0.21	0.26	0.31	0.34	0.39	0.46	0.53	0.39	0.33
RVK Liquidity Metric (T-Bills = 100)			71	69	67	68	67	68	69	69	68	68	78	69
Estimated Yield (%)			3.67	3.88	4.15	4.31	4.27	4.29	4.41	4.48	4.54	4.44	3.02	4.12
Estimated Duration of Fixed Income & Cash			4.71	4.59	4.46	4.50	4.47	4.27	4.01	3.60	2.98	3.34	5.42	4.53

Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total equity (including MLPs, private equity, core and value-added real estate, and diversified hedge funds) must not exceed 70% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total Real Estate.

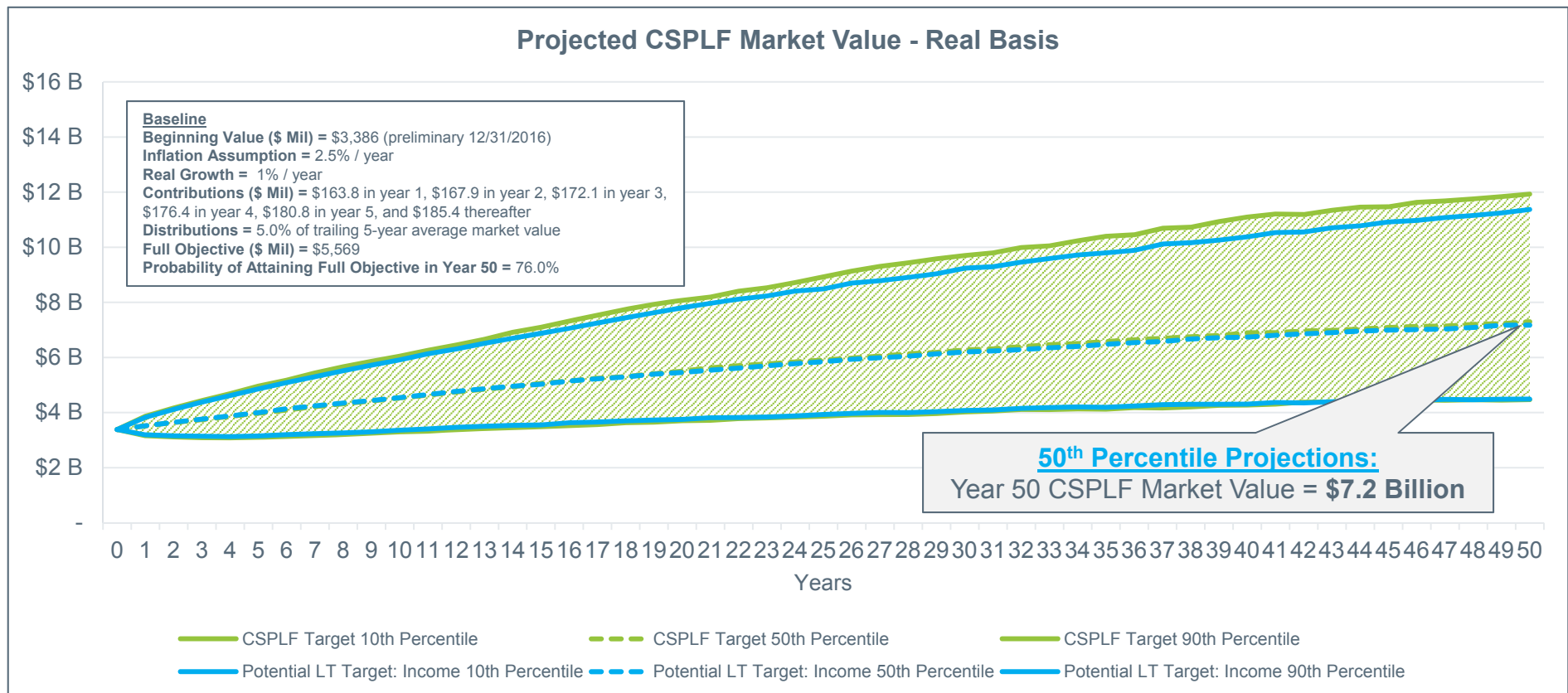
# Common School Permanent Land Fund

<b>Purpose:</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.
<b>Fund Horizon:</b>	Permanent Fund (Perpetual)
<b>Return Objective:</b>	Current: CPI + 4% <i>Potential: CPI + 3%</i>
<b>Primary Investment Goal:</b>	Capital appreciation, total return, and protection against inflation.
<b>Spending Policy:</b>	<p>Maximum of 5% of trailing 5-year average market value.</p> <ul style="list-style-type: none"><li>- At least 2.5% and up to 3% of earnings guaranteed to the School Foundation Program (“SFP”).</li><li>- Up to 2% of remaining earnings will be appropriated to the SFP Reserve Account.</li></ul> <p>Earnings in excess of 5% are appropriated to the reserve account. When the reserve account balance exceeds 90% of the spending policy amount, the excess funds are transferred back to the corpus.</p>
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.
<b>Investment Constraints:</b>	<p>Maximum of 55% may be invested in “common stocks”.</p> <p>“Common stocks” is currently interpreted to include all public equity and alternative investments.</p>

# Intergenerational Equity Analysis: *Common School Permanent Land Fund*

Under the income portfolio, the median probability of achieving the Full Objective (preserving long-term purchasing power) in Year 50 decreases modestly from 76.0% to **75.6%**.

The projected market value at Year 50 decreases modestly from \$7.3 Billion to **\$7.2 Billion**.



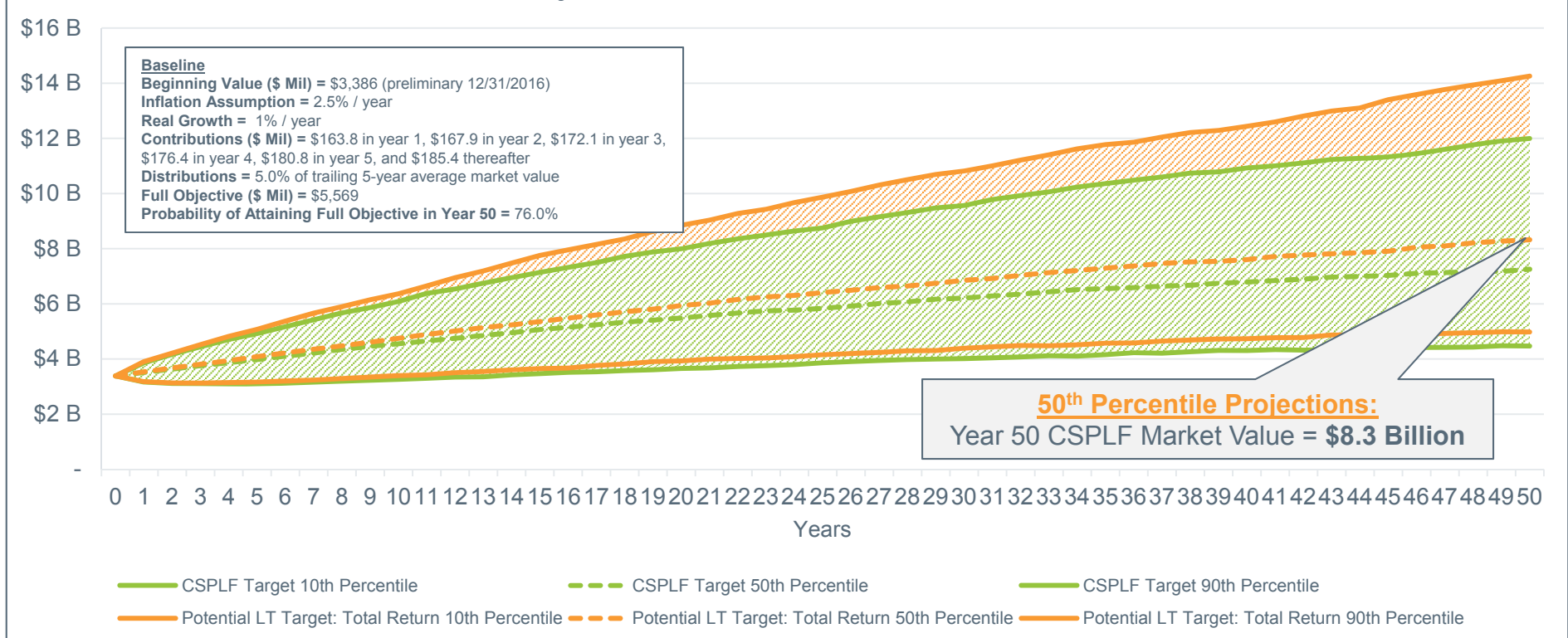
All data is shown in real terms (after 2.50% annual inflation). Model assumes investment earnings always meet or exceed annual spending policy amount. Contribution assumptions were provided by the Consensus Revenue Estimating Group.

# Intergenerational Equity Analysis: *Common School Permanent Land Fund*

Under the long-term total return portfolio, the median probability of achieving the Full Objective (preserving long-term purchasing power) in Year 50 increases from 76.0% to **84.5%**.

The projected market value at Year 50 increases from \$7.3 Billion to **\$8.3 Billion**.

Projected CSPLF Market Value - Real Basis



All data is shown in real terms (after 2.50% annual inflation). Model assumes investment earnings always meet or exceed annual spending policy amount. Contribution assumptions were provided by the Consensus Revenue Estimating Group.

# Intergenerational Equity Analysis: Common School Permanent Land Fund

	CSPLF Target (Current Policy)	Potential LT Target: Income (Change from Current Policy)	Potential LT Target: Total Return (Change from Current Policy)
<b>Current Framework: 5% of trailing 5-year average market value</b>			
Cumulative 50 Year Distributions (\$B)	\$13.9	\$13.7 (-0.2)	\$15.0 (+1.1)
Volatility of Annual Spending Changes (% YoY St. Dev.)	8.7%	8.6% (-0.1%)	8.8% (+0.1%)
Projected 50 Year Market Value (\$B)	\$7.3	\$7.2 (-0.1)	\$8.3 (+1.0)
Probability of Achieving Full Objective	76.0%	75.6% (-0.4%)	84.5% (+8.5%)
<b>Sensitivity Analysis</b> (+/- vs. Current Framework)			
Impact of Higher Contributions (growing at 1%/year beyond near-term forecasts)	91.5% (+15.5%)	92.0% (+16.4%)	95.1% (+10.6%)
Impact of Lower Contributions (declining at 1%/year beyond near-term forecasts)	57.3% (-18.7%)	56.0% (-19.6%)	69.4% (-15.1%)
Impact of 6% Annual Spending Policy Rate	51.6% (-24.4%)	49.8% (-25.8%)	63.7% (-20.8%)
Impact of 4% Annual Spending Policy Rate	90.9% (+14.9%)	91.4% (+15.8%)	94.9% (+10.4%)

All data is shown in real terms (after 2.50% annual inflation). Model assumes investment earnings always meet or exceed annual spending policy amount. Contribution assumptions were provided by the Consensus Revenue Estimating Group.



# Permanent Land Fund

<b>Purpose:</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.
<b>Fund Horizon:</b>	Permanent Fund (Perpetual)
<b>Return Objective:</b>	Current: CPI + 4% <i>Potential: CPI + 3.5%</i>
<b>Primary Investment Goal:</b>	Capital appreciation, total return, and protection against inflation.
<b>Spending Policy:</b>	Not available to RVK
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.
<b>Investment Constraints:</b>	Maximum of 55% may be invested in “common stocks”. “Common stocks” is currently interpreted to include all public equity and alternative investments.

# University Permanent Land Fund

<b>Purpose:</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.
<b>Fund Horizon:</b>	Permanent Fund (Perpetual)
<b>Return Objective:</b>	Current: CPI + 4% <i>Potential: CPI + 3.5%</i>
<b>Primary Investment Goal:</b>	Capital appreciation, total return, and protection against inflation.
<b>Spending Policy:</b>	Not available to RVK
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.
<b>Investment Constraints:</b>	Maximum of 55% may be invested in “common stocks”. “Common stocks” is currently interpreted to include all public equity and alternative investments.

# Hathaway Scholarship Endowment Fund

<b>Purpose:</b>	The corpus must be held inviolate and cannot be spent but only invested for income and capital gains.
<b>Fund Horizon:</b>	Permanent Fund (Perpetual)
<b>Return Objective:</b>	Current: CPI + 4% <i>Potential: CPI + 3%</i>
<b>Primary Investment Goal:</b>	Capital appreciation, total return, and protection against inflation.
<b>Spending Policy:</b>	Earnings are transferred to the Expenditure Account. <ul style="list-style-type: none"><li>- If funds in the Expenditure Account are insufficient to cover payment for the scholarships, funds are to be transferred from the Reserve Account to the Expenditure Account.</li></ul> If the Reserve Account exceeds the greater of \$12 million or 3.75% of the previous trailing five-year average market value of corpus, the excess is transferred to the Hathaway corpus.
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move income and capital gains generated during the year out of the fund.
<b>Investment Constraints:</b>	Maximum of 55% may be invested in “common stocks”. “Common stocks” is currently interpreted to include all public equity and alternative investments.

# Workers' Compensation Fund: *Potential Asset Allocation Changes*



# Workers' Compensation Fund

<b>Purpose:</b>	This fund retains income and capital gains. The funds are to be invested for the very long-term to produce a situation in which the fund is self-funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions.
<b>Fund Horizon:</b>	Permanent Fund
<b>Return Objective:</b>	Current: CPI + 3% <i>Potential: CPI + 3%</i>
<b>Actuarial Discount Rate:</b>	2.5%
<b>Duration of Liabilities</b>	11.4 years
<b>Primary Investment Goal:</b>	Safety of capital, yield, and capital appreciation.
<b>Spending Policy:</b>	The exact cash level shall be determined annually by the Workers' Compensation staff and dependent on the liquidity needs of the fund.
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move money between asset classes and to meet cash needs.
<b>Investment Constraints:</b>	Maximum of 45% may be invested in "common stocks". "Common stocks" is currently interpreted to include all public equity and alternative investments.

# Potential Asset Allocation Changes: *Workers' Compensation Fund*

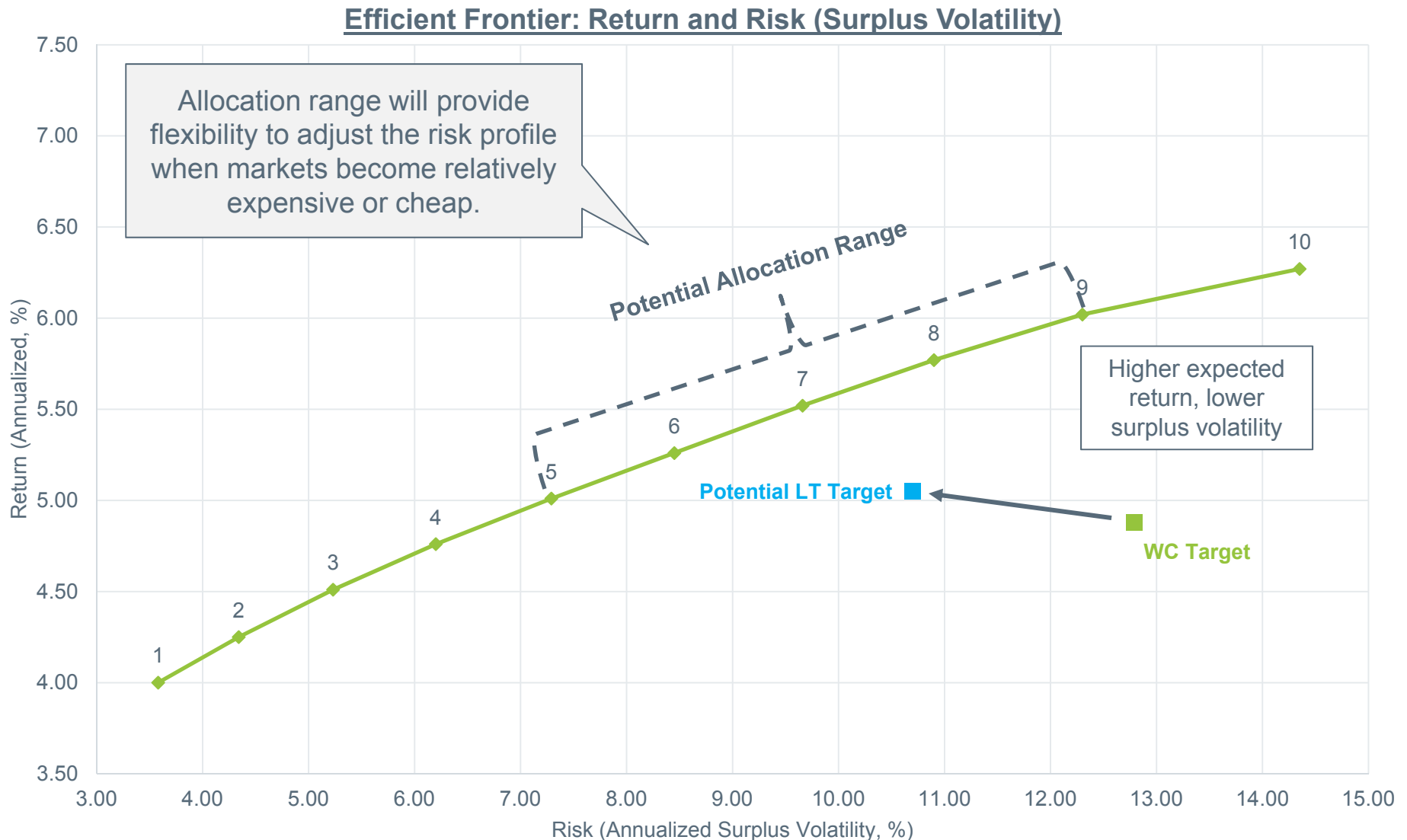
The current policy target is relatively close to the efficient frontier, when considering return and risk in terms of standard deviation of returns.



Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total public equity must not exceed 35% of the total portfolio. (iv) Total real estate must not exceed 5% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total real estate.

# Potential Asset Allocation Changes: *Workers' Compensation Fund*

When considering return and risk in terms of surplus volatility (changes in funded status), the current policy target is much further away from the efficient frontier.



The plan is assumed to be 100% funded as of December 31, 2016 and long duration fixed income is considered the liability-matching asset class. The duration of plan liabilities is assumed to be 11.4 years and the duration of long duration fixed income is assumed to be 15 years.

# Potential Asset Allocation Changes: *Workers' Compensation Fund*

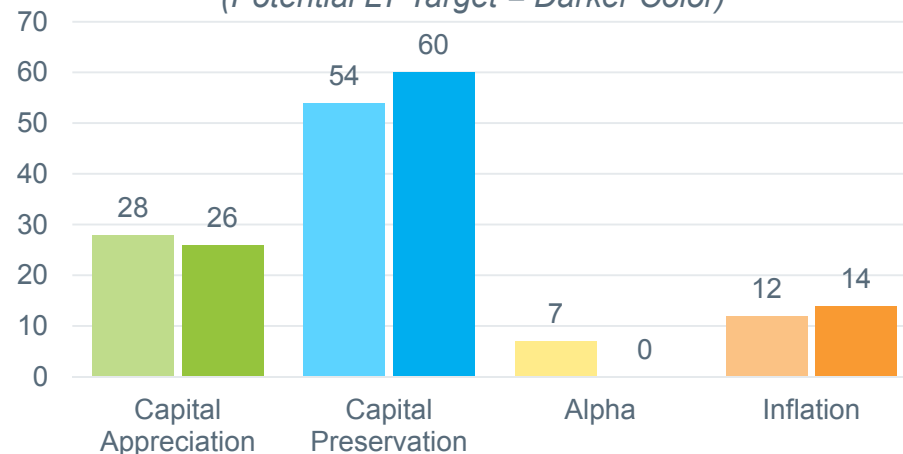
	WC Target	Potential LT Target	Difference
<b>Total Public Equity</b>	<b>19.0</b>	<b>20.0</b>	<b>-1.0</b>
Broad US Equity	10.2	9.0	-1.2
Small Cap US Equity	0.8	1.0	+0.2
Broad Int'l Equity	8.1	10.0	+1.9
<b>Total Alternatives</b>	<b>11.0</b>	<b>7.0</b>	<b>-4.0</b>
MLPs	0.0	3.0	+3.0
Core Real Estate	2.9	3.0	+0.1
Non-Core Real Estate	1.1	1.0	-0.1
Diversified Hedge Funds	7.0	0.0	-7.0
<b>Total Fixed Income &amp; Cash</b>	<b>70.0</b>	<b>73.0</b>	<b>+3.0</b>
Convertibles	3.0	0.0	-3.0
Long Duration Fixed Income	0.0	27.0	+27.0
Int. Duration Fixed Income	48.5	33.0	-15.5
High Yield Fixed Income	1.3	0.0	-1.3
Bank Loans	3.8	3.0	-0.8
EMD (Local)	3.2	5.0	+1.8
TIPS	5.2	5.0	-0.2
Cash Equivalents	5.0	0.0	-5.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>--</b>

## Key Observations:

- The Potential LT Target portfolio adds exposure to long duration fixed income to help protect the relatively healthy funded status.
- Allocations to growth assets remain such that the fund remains self-funding or nearly self-funding.
- Exposure to inflationary and capital preservation assets increases, while exposure to alpha thematic allocations is eliminated through the removal of hedge funds.

## Thematic Allocation (%)

(Potential LT Target = Darker Color)



Allocations may not sum exactly to totals due to rounding. WC target allocation to global equity is assumed to be 50% Broad US Equity and 50% Broad Int'l Equity. The current credit fixed income portfolio is split out into its underlying components.





# Potential Asset Allocation Changes: Workers' Compensation Fund

The Potential LT Target portfolio would increase the probability of achieving the current long-term expected return target to 50% over a 10 year period.

	WC Target	Potential LT Target	Difference
Expected Return (%)	4.88	5.05	+0.17
Risk (Standard Deviation, %)	6.34	7.50	+1.16
Return (Compound, %)	4.69	4.78	+0.09
Return/Risk Ratio	0.77	0.67	-0.10
Assumed Funded Status (%)	100.00	100.00	--
Risk (Surplus Volatility, %)	12.79	10.70	-2.09
Estimated Interest Hedge Ratio	0.30	0.57	+0.27
Estimated Duration (Int. Rate Risk) (Fixed Income & Cash Only)	5.42 (70% of Total)	9.08 (73% of Total)	+3.66 (+3% of Total)
Estimated Yield (%)	3.05	3.54	+0.49

## Portfolio Stress Testing (Monte Carlo Results)

1 Year Max Drawdown (2008-Like Event)	-\$256 M (-13.52%)	-\$272 M (-14.33%)	-\$16 M (-0.81%)
Median 1 Year Return	+\$99 M (+5.24%)	+\$104 M (+5.48%)	+\$5 M (+0.24%)

## Probability of Achieving Various Real Return Targets

2.5% Real Return Over 10 Years	51%	53%	+2%
3.0% Real Return Over 10 Years	48%	50%	+2%
3.5% Real Return Over 10 Years	44%	46%	+2%

## Range of Monte Carlo Stress Test Results

1<sup>st</sup> & 99<sup>th</sup> Percentiles = Darker Color  
5<sup>th</sup> to 95<sup>th</sup> Percentiles = Lighter Color

### WC Target



### Potential LT Target



Differences may not sum exactly due to rounding. Expected returns do not assume active manager alpha. Estimated yields are a weighted average of the underlying asset class benchmarks as of 12/31/16. 1 Year Max Drawdown reflects the 1<sup>st</sup> percentile results. Dollar amounts are based on an initial portfolio value of \$1,895 M.

# Efficient Frontier: Return and Risk (Standard Deviation)

## Workers' Compensation Fund

	Min	Max	1	2	3	4	5	6	7	8	9	10	WC Target	Potential LT Target
Broad US Equity	0	30	0	1	2	5	6	8	10	12	13	13	10.2	9.0
Small Cap US Equity	0	5	0	0	1	2	2	3	3	4	4	4	0.8	1.0
Broad International Equity	0	30	0	1	2	6	8	11	14	16	18	18	8.1	10.0
MLPs	0	3	0	3	3	3	3	3	3	3	3	3	0.0	3.0
Core Real Estate	0	5	3	3	3	3	3	3	3	3	3	3	2.9	3.0
Non-Core Real Estate	0	2	2	2	2	2	2	2	2	2	2	2	1.1	1.0
Diversified Hedge Funds	0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.0	0.0
Convertibles	0	5	4	5	4	0	0	0	0	0	0	5	3.0	0.0
Int. Duration Fixed Income	0	100	68	62	56	52	50	48	43	36	20	0	48.5	33.0
High Yield Fixed Income	0	5	0	0	0	0	0	0	0	0	3	5	1.3	0.0
Bank Loans	0	5	5	5	5	5	5	5	5	5	5	5	3.8	3.0
Emerging Markets Debt (Local)	0	5	0	0	5	5	5	5	5	5	5	5	3.2	5.0
TIPS	0	5	5	5	5	5	5	5	5	5	5	0	5.2	5.0
Long Duration Fixed Income	0	100	0	0	0	0	0	0	0	1	11	30	0.0	27.0
Cash Equivalents	0	5	5	5	5	5	3	0	0	0	0	0	5.0	0.0
Total			100	100	100	100	100	100	100	100	100	100	100.0	100.0
Total Fixed Income & Cash			87	82	80	72	68	63	58	52	49	50	70	73
Capital Appreciation			6	9	16	19	24	29	34	39	45	52	28	26
Capital Preservation			73	67	61	57	53	48	43	37	32	30	54	60
Alpha			8	8	8	8	8	8	8	8	8	8	7	0
Inflation			13	16	16	16	16	16	16	16	16	11	12	14
Expected Return			4.07	4.31	4.56	4.80	5.05	5.29	5.54	5.78	6.03	6.27	4.88	5.05
Risk (Standard Deviation)			4.80	4.92	5.22	5.67	6.25	6.90	7.63	8.42	9.28	10.30	6.34	7.50
Return (Compound)			3.96	4.19	4.43	4.65	4.86	5.06	5.27	5.45	5.63	5.77	4.69	4.78
Return/Risk Ratio			0.85	0.88	0.87	0.85	0.81	0.77	0.73	0.69	0.65	0.61	0.77	0.67
RVK Expected Eq Beta (LC US Eq = 1)			0.11	0.15	0.18	0.23	0.28	0.32	0.37	0.42	0.46	0.51	0.29	0.30
RVK Liquidity Metric (T-Bills = 100)			77	77	76	76	76	76	77	77	76	75	78	82
Estimated Yield (%)			3.03	3.14	3.35	3.34	3.31	3.30	3.29	3.23	3.45	3.74	3.05	3.54
Estimated Duration of Fixed Income & Cash			5.44	5.37	5.35	5.49	5.49	5.51	5.47	5.60	7.33	10.13	5.42	9.08

Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total public equity must not exceed 35% of the total portfolio. (iv) Total real estate must not exceed 5% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total real estate.

# Efficient Frontier: Return and Risk (Surplus Volatility)

## Workers' Compensation Fund

	Min	Max	1	2	3	4	5	6	7	8	9	10	WC Target	Potential LT Target
Broad US Equity	0	30	0	1	1	3	5	8	10	13	13	13	10.2	9.0
Small Cap US Equity	0	5	0	0	0	1	2	3	3	4	4	4	0.8	1.0
Broad International Equity	0	30	0	1	1	4	7	10	14	17	18	18	8.1	10.0
MLPs	0	3	0	2	3	3	3	3	3	3	3	3	0.0	3.0
Core Real Estate	0	5	0	0	2	2	2	2	2	2	3	3	2.9	3.0
Non-Core Real Estate	0	2	0	0	2	2	2	2	2	2	2	2	1.1	1.0
Diversified Hedge Funds	0	7.5	0	0	0	0	0	0	0	0	7.5	7.5	7.0	0.0
Convertibles	0	5	0	0	0	0	0	0	0	0	0	5	3.0	0.0
Int. Duration Fixed Income	0	100	0	0	0	0	0	0	0	0	0	0	48.5	33.0
High Yield Fixed Income	0	5	0	0	0	0	0	0	0	0	0	5	1.3	0.0
Bank Loans	0	5	0	0	0	0	0	0	0	0	0	5	3.8	3.0
Emerging Markets Debt (Local)	0	5	0	3	5	5	5	5	5	5	5	5	3.2	5.0
TIPS	0	5	0	0	0	0	0	0	0	0	0	0	5.2	5.0
Long Duration Fixed Income	0	100	100	93	86	80	73	67	61	55	45	30	0.0	27.0
Cash Equivalents	0	5	0	0	0	0	0	0	0	0	0	0	5.0	0.0
Total			100	100	100	100	100	100	100	100	100	100	100.0	100.0
Total Fixed Income & Cash			100	96	91	85	78	72	66	60	50	50	70	73
Expected Equity Beta (LC US Eq = 1)			0.12	0.15	0.17	0.22	0.27	0.33	0.38	0.44	0.46	0.51	0.29	0.30
RVK Liquidity Metric (Cash = 100)			85	84	81	81	81	82	82	83	78	75	78	82
Expected Return			4.00	4.25	4.51	4.76	5.01	5.26	5.52	5.77	6.02	6.27	4.88	5.05
Risk (Surplus Volatility)			3.58	4.34	5.23	6.20	7.29	8.45	9.66	10.90	12.30	14.35	12.79	10.70
Return (Compound)			3.37	3.69	4.01	4.31	4.58	4.84	5.09	5.31	5.57	5.77	4.69	4.78
Risk (Standard Deviation)			11.50	10.87	10.24	9.78	9.53	9.46	9.58	9.88	9.81	10.30	6.34	7.50
Est. Interest Hedge Ratio			1.32	1.24	1.16	1.07	0.99	0.91	0.83	0.75	0.62	0.44	0.30	0.57
Est. Funded Status -2 STDEV Event (Current = 100%)*			0.93	0.91	0.90	0.88	0.85	0.83	0.81	0.78	0.75	0.71	0.74	0.79
Estimated Yield (%)			3.96	4.07	4.21	4.11	3.97	3.89	3.80	3.72	3.59	3.74	3.05	3.54
Estimated Duration of Fixed Income & Cash			14.97	14.66	14.43	14.39	14.34	14.28	14.22	14.15	13.98	10.13	5.42	9.08

Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity. (iii) Total public equity must not exceed 35% of the total portfolio. (iv) Total real estate must not exceed 5% of the total portfolio. (v) Core Real Estate must be at least one-half (1/2) of total real estate.

# Pool A Investment Account:

## *Potential Asset Allocation Changes*

- Tobacco Settlement Fund
- Wyoming Public Broadcasting Trust
- Wyoming Wildlife & Natural Resource Trust
- Wyoming Cultural Trust Fund
- Wyoming Game & Fish Trust

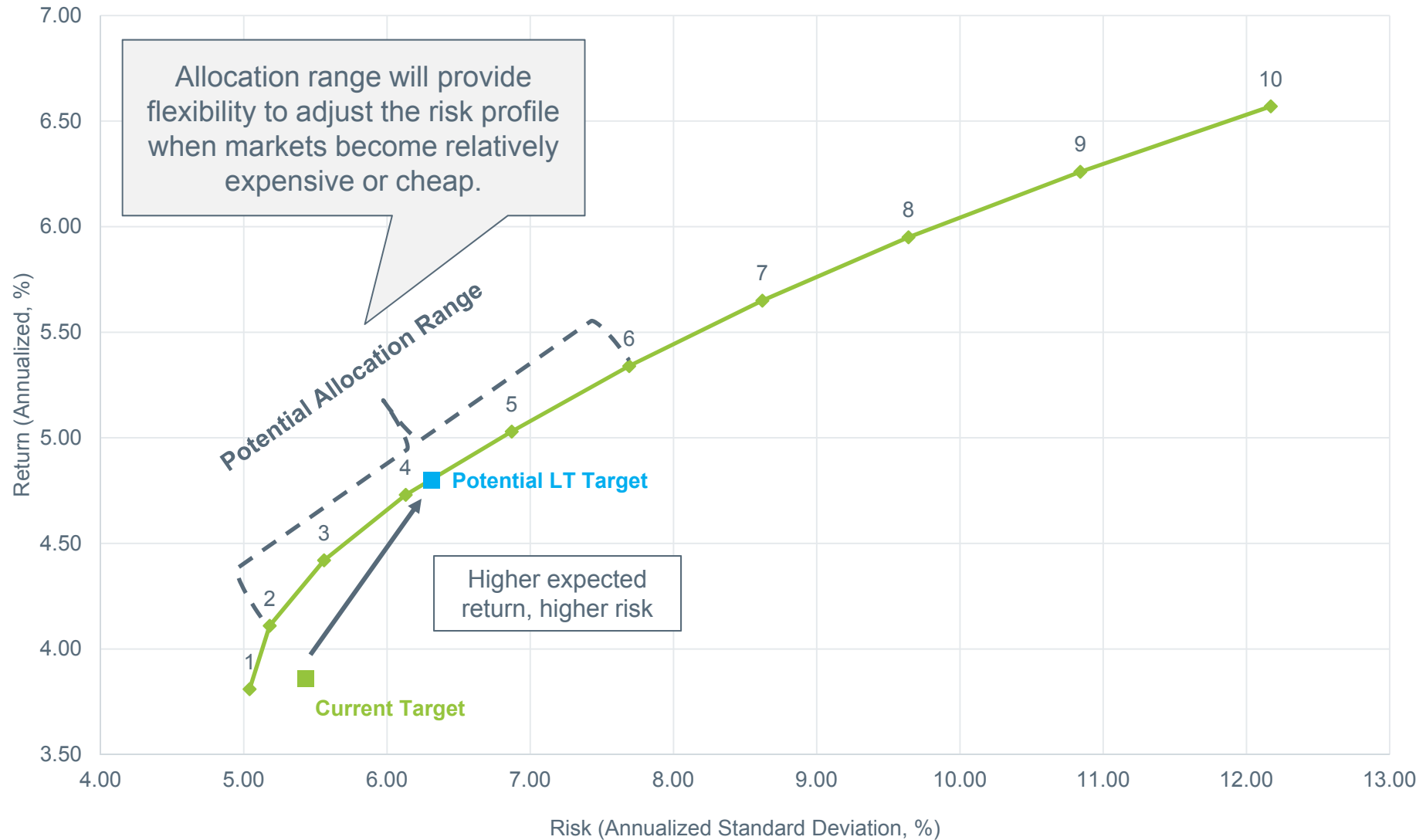
# Pool A Investment Account

## (Formerly the Tobacco Settlement Fund)

<b>Purpose:</b>	This fund dispenses income and capital gains.
<b>Fund Horizon:</b>	Non-Permanent Fund
<b>Return Objective:</b>	Current: CPI + 2.25% <i>Potential: CPI + 2.25%</i>
<b>Primary Investment Goal:</b>	Safety of capital, yield and liquidity.
<b>Spending Policy:</b>	Earnings go toward health improvement programs.
<b>Liquidity Requirements:</b>	Liquidity must be maintained to move money between asset classes and to meet cash needs as determined by the State Treasurer's Office.
<b>Investment Constraints:</b>	Per the recent amendment to Wyoming Constitution Article 16 Section 6, can now invest in "common stocks". "Common stocks" is currently interpreted to include all public equity and alternative investments.

# Potential Asset Allocation Changes: *Pool A Investment Account*

## Efficient Frontier



Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity.



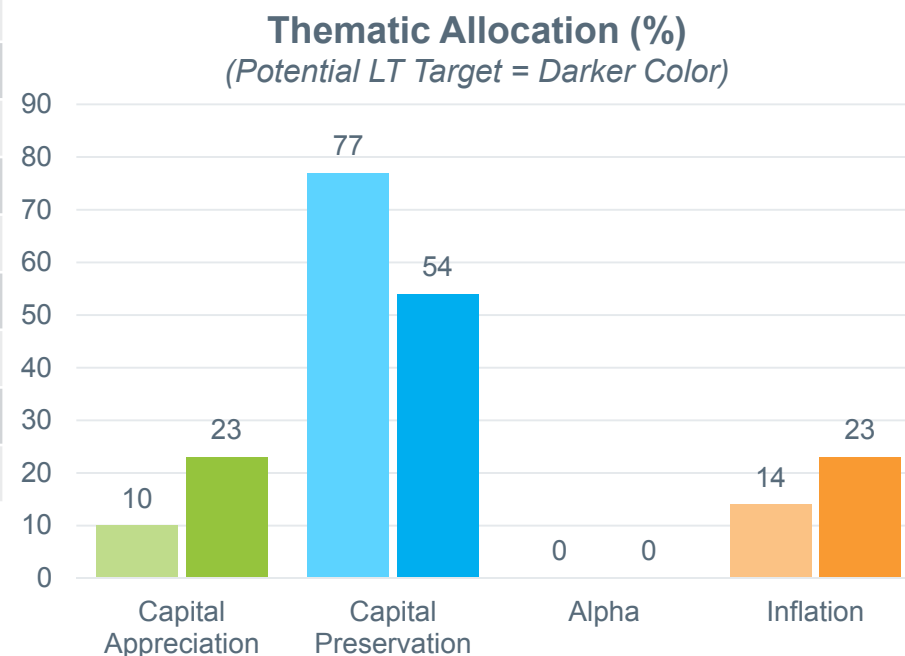
# Potential Asset Allocation Changes:

## *Pool A Investment Account*

	Current Target	Potential LT Target	Difference
<b>Total Public Equity</b>	<b>0.0</b>	<b>18.0</b>	<b>+16.0</b>
Broad US Equity	--	7.5	+7.5
Small Cap US Equity	--	1.0	+1.0
Broad Int'l Equity	--	7.5	+7.5
Preferred Stock	--	2.0	+2.0
<b>Total Alternatives</b>	<b>0.0</b>	<b>5.0</b>	<b>+5.0</b>
MLPs	--	5.0	+5.0
<b>Total Fixed Income &amp; Cash</b>	<b>100.0</b>	<b>77.0</b>	<b>-21.0</b>
Convertibles	3.0	0.0	-3.0
Int. Duration Fixed Income	73.7	49.0	-24.7
High Yield Fixed Income	2.0	0.0	-2.0
Bank Loans	5.8	10.0	+4.2
EMD (Local)	4.9	5.0	+0.1
TIPS	7.7	8.0	+0.3
Cash Equivalents	3.0	5.0	+2.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>--</b>

### Key Observations:

- The Potential LT Target portfolio adds exposure to public equity and alternatives, comprising 23% of the total portfolio.
- Exposures to inflationary and capital appreciation assets increase, while exposure to capital preservation declines.



Allocations may not sum exactly to totals due to rounding. Potential target allocation to global equity is assumed to be 50% Broad US Equity and 50% Broad Int'l Equity. The current credit fixed income portfolio is split out into its underlying components.

# Potential Asset Allocation Changes:

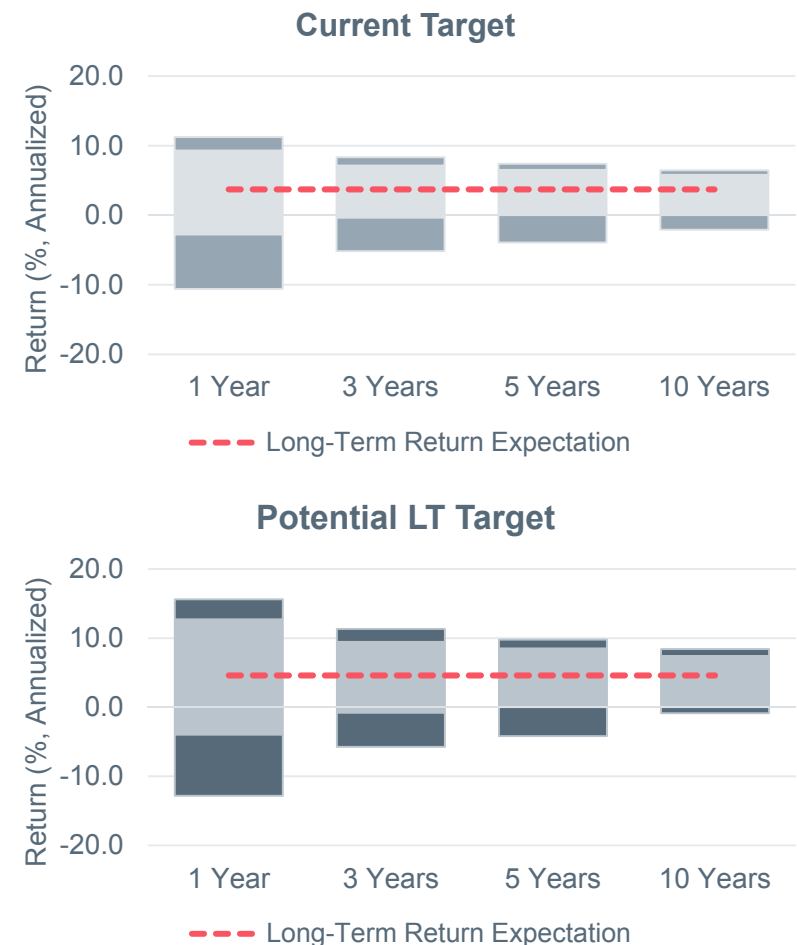
## Pool A Investment Account

The Potential LT Target portfolio would increase the probability of achieving the current long-term expected return target to 51% over a 10 year period.

	Current Target	Potential LT Target	Difference
Expected Return (%)	3.86	4.80	+0.94
Risk (Standard Deviation, %)	5.43	6.31	+0.88
Return (Compound, %)	3.72	4.61	+0.89
Return/Risk Ratio	0.71	0.76	+0.05
Estimated Duration (Int. Rate Risk) (Fixed Income & Cash Only)	5.48 (100% of Total)	5.20 (77% of Total)	-0.28 (-23% of Total)
Estimated Yield (%)	3.24	3.55	+0.31
<b>Portfolio Stress Testing (Monte Carlo Results)</b>			
1 Year Max Drawdown (2008-Like Event)	-\$8.5 M (-10.22%)	-\$10.6 M (-12.82%)	-\$2.1 M (-2.60%)
Median 1 Year Return	+\$3.6 M (+4.31%)	+\$4.4 M (+5.34%)	+\$0.8 M (+1.03%)
<b>Probability of Achieving Various Real Return Targets</b>			
2.0% Real Return Over 10 Years	35%	56%	+21%
2.25% Real Return Over 10 Years	29%	51%	+22%
2.5% Real Return Over 10 Years	24%	46%	+22%

### Range of Monte Carlo Stress Test Results

1<sup>st</sup> & 99<sup>th</sup> Percentiles = Darker Color  
5<sup>th</sup> to 95<sup>th</sup> Percentiles = Lighter Color



Differences may not sum exactly due to rounding. Expected returns do not assume active manager alpha. Estimated yields are a weighted average of the underlying asset class benchmarks as of 12/31/16. 1 Year Max Drawdown reflects the 1<sup>st</sup> percentile results. Dollar amounts are based on an initial portfolio value of \$82.9 M.



# Efficient Frontier:

## Pool A Investment Account

	Min	Max	1	2	3	4	5	6	7	8	9	10	Current Target	Potential LT Target
Broad US Equity	0	20	0	1	3	6	7	9	12	14	20	20	0.0	7.5
Small Cap US Equity	0	5	0	0	1	2	2	3	4	5	5	5	0.0	1.0
Broad International Equity	0	20	0	2	4	8	10	12	16	19	20	20	0.0	7.5
Preferred Stock	0	5	0	0	0	0	3	5	5	5	5	5	0.0	2.0
MLPs	0	5	1	4	5	5	5	5	5	5	5	5	0.0	5.0
Convertibles	0	5	5	5	4	0	0	0	0	0	0	5	3.0	0.0
Int. Duration Fixed Income	0	100	71	64	57	52	48	42	35	29	20	7	73.7	49.0
High Yield Fixed Income	0	10	0	0	0	0	0	0	0	0	2	10	2.0	0.0
Bank Loans	0	10	10	10	10	10	10	10	10	10	10	10	5.8	10.0
Emerging Markets Debt (Local)	0	5	0	0	4	5	5	5	5	5	5	5	4.9	5.0
TIPS	0	8	8	8	8	8	8	8	8	8	8	8	7.7	8.0
Cash Equivalents	0	5	5	5	5	5	2	0	0	0	0	0	3.0	5.0
Total			100	100	100	100	100	100	100	100	100	100	100.0	100.0
Total Fixed Income & Cash			99	92	88	80	72	65	58	52	45	45	100	77
Capital Appreciation			5	9	15	20	28	35	42	48	57	70	10	23
Capital Preservation			76	69	62	57	49	42	35	29	20	7	77	54
Alpha			0	0	0	0	0	0	0	0	0	0	0	0
Inflation			19	22	23	23	23	23	23	23	23	23	14	23
Expected Return			3.81	4.11	4.42	4.73	5.03	5.34	5.65	5.95	6.26	6.57	3.86	4.80
Risk (Standard Deviation)			5.04	5.18	5.56	6.13	6.87	7.69	8.62	9.64	10.84	12.17	5.43	6.31
Return (Compound)			3.69	3.98	4.27	4.55	4.81	5.06	5.30	5.51	5.71	5.88	3.72	4.61
Return/Risk Ratio			0.76	0.79	0.79	0.77	0.73	0.69	0.66	0.62	0.58	0.54	0.71	0.76
RVK Expected Eq Beta (LCUS Eq = 1)			0.10	0.15	0.20	0.25	0.29	0.34	0.40	0.46	0.54	0.60	0.11	0.26
RVK Liquidity Metric (T-Bills = 100)			83	83	82	82	82	83	83	83	83	80	82	83
Estimated Yield (%)			3.16	3.25	3.48	3.51	3.56	3.56	3.55	3.51	3.54	3.78	3.24	3.55
Estimated Duration of Fixed Income & Cash			5.22	5.17	5.14	5.23	5.21	5.15	5.06	4.97	4.74	4.03	5.48	5.20

Group Constraints: (i) Broad US Equity must be at least three-fourths (3/4) of total US equity. (ii) Total US equity must be at least one-half (1/2) of total public equity.

# Synopsis of Potential Asset Allocation Changes



# Synopsis of Potential Asset Allocation Changes

## **Permanent Funds** (*PMTF, PLF, UPLF, CSPLF, Hathaway, and Higher Ed*)

- Improve the likelihood of achieving each pool's long-term return objectives, focusing on long-term total return or income generation based on respective spending policy goals and needs.

**Increase allocations to public equity and alternatives for pools with a long-term total return focus, increase allocations to higher yielding assets for pools with an income focus.**

## **State Agency Pool**

- Focus on aligning the risk profile appropriately with the needs of the constituent investors. Emphasis on risk reduction and capital preservation to help mitigate significant short-term draw downs.

**Introduce low duration fixed income to reduce portfolio interest rate risk.**

## **Workers' Compensation Fund**

- Examine risk in terms of surplus volatility to help preserve the fund's fiscal health with a healthy funded status.

**Introduce a modest allocation to long duration fixed income to help reduce funded status volatility.**

## **Pool A Investment Account** (*Formerly Tobacco Settlement Fund*)

- Introduce public equity and alternative investments in a thoughtful manner such that the overall risk profile remains appropriate.

**Gradually introduce allocations to risk assets when better entry points are available.**



PORTLAND

CHICAGO

NEW YORK



April 6, 2017

BOARD MATTER D-5

**ACTION:** State Investment Asset Allocation Changes

**AUTHORITY:** W.S. 9-4-716

**ANALYSIS:**

The Treasurer's Office is proposing changes to the asset allocation for the State funds as outlined in the State Loan and Investment Board's Master Investment Policy and Sub-Policies. The recommended asset allocations for each of the State's nine funds are attached to this board matter. The proposed asset allocations reflect the following:

- The Treasurer's Office has determined that it is in the best interest of the State to manage each fund, including the permanent funds and the non-permanent funds, individually on a customized basis to more accurately align the assets of each fund with its liability.
- The legislature approved the investment of five non-permanent accounts in equities as allowed under the constitutional amendment passed in 2016. The Treasurer's Office plans to implement this change through a new fund called Pool A Investment Account.
- Two options are being presented for the Common School Permanent Land Fund.

**DIRECTOR'S RECOMMENDATION:** The State Treasurer recommends that the Board approve the asset allocation for each of the nine State funds as indicated in the attached proposed allocations.

**BOARD ACTION:** **BOARD APPROVED**

- Higher Education Endowment Fund – Income Focus
- Common School Permanent Land Fund – Income Focus
- Hathaway Scholarship Endowment Fund – Long Term Total Return Focus

## State Agency Pool

	Min	Long-Term Target	Max
Convertibles	2.50	5.00	7.50
Int. Duration Fixed Income	5.00	10.00	15.00
Internal Fixed Income	10.00	20.00	30.00
Low Duration Fixed Income	15.00	30.00	45.00
Bank Loans	7.50	15.00	22.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	5.00	10.00	15.00

## Permanent Mineral Trust Fund

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

## Higher Education Endowment Fund

### Long-Term Total Return Focus

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

### Income Focus

	Min	Long-Term Target	Max
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
Broad International Equity	4.50	9.00	13.50
Preferred Stock	1.00	2.00	3.00
MLPs	3.00	6.00	9.00
Core Real Estate	7.50	15.00	22.50
Non-Core Real Estate	1.00	2.00	3.00
Int. Duration Fixed Income	18.50	37.00	55.50
Bank Loans	6.00	12.00	18.00
Emerging Markets Debt (Local)	3.50	7.00	10.50
Cash Equivalents	0.00	0.00	5.00



## Common School Permanent Land Fund

### Long-Term Total Return Focus

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

### Income Focus

	Min	Long-Term Target	Max
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
Broad International Equity	4.50	9.00	13.50
Preferred Stock	1.00	2.00	3.00
MLPs	3.00	6.00	9.00
Core Real Estate	7.50	15.00	22.50
Non-Core Real Estate	1.00	2.00	3.00
Int. Duration Fixed Income	18.50	37.00	55.50
Bank Loans	6.00	12.00	18.00
Emerging Markets Debt (Local)	3.50	7.00	10.50
Cash Equivalents	0.00	0.00	5.00

## Permanent Land Fund

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

## University Permanent Land Fund

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

## Hathaway Scholarship Endowment Fund

### Long-Term Total Return Focus

	Min	Long-Term Target	Max
Broad US Equity	5.00	10.00	15.00
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	2.25	4.50	6.75
Private Equity	4.00	8.00	12.00
Core Real Estate	3.00	6.00	9.00
Non-Core Real Estate	2.00	4.00	6.00
Diversified Hedge Funds	3.75	7.50	11.25
Int. Duration Fixed Income	14.50	29.00	43.50
Bank Loans	2.50	5.00	7.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

### Income Focus

	Min	Long-Term Target	Max
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
Broad International Equity	4.50	9.00	13.50
Preferred Stock	1.00	2.00	3.00
MLPs	3.00	6.00	9.00
Core Real Estate	7.50	15.00	22.50
Non-Core Real Estate	1.00	2.00	3.00
Int. Duration Fixed Income	18.50	37.00	55.50
Bank Loans	6.00	12.00	18.00
Emerging Markets Debt (Local)	3.50	7.00	10.50
Cash Equivalents	0.00	0.00	5.00

## Workers' Compensation Fund

	Min	Long-Term Target	Max
Broad US Equity	4.50	9.00	13.50
Small Cap US Equity	0.50	1.00	1.50
Broad International Equity	5.00	10.00	15.00
MLPs	1.50	3.00	4.50
Core Real Estate	1.50	3.00	4.50
Non-Core Real Estate	0.50	1.00	1.50
Long Duration Fixed Income	13.50	27.00	40.50
Int. Duration Fixed Income	16.50	33.00	49.50
Bank Loans	1.50	3.00	4.50
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	2.50	5.00	7.50
Cash Equivalents	0.00	0.00	5.00

## Pool A Investment Account

	Min	Long-Term Target	Max
Broad US Equity	3.75	7.50	11.25
Small Cap US Equity	0.50	1.00	1.50
Broad International Equity	3.75	7.50	11.25
Preferred Stock	1.00	2.00	3.00
MLPs	2.50	5.00	7.50
Int. Duration Fixed Income	24.50	49.00	73.50
Bank Loans	5.00	10.00	15.00
Emerging Markets Debt (Local)	2.50	5.00	7.50
TIPS	4.00	8.00	12.00
Cash Equivalents	2.50	5.00	7.50

Memo to: Oaktree Clients  
From: Howard Marks  
Re: Economic Reality

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In 1977, responding to the difficult energy outlook brought on by the Arab Oil Embargo, President Jimmy Carter created the position of Secretary of Energy and chose James Schlesinger as America's first "energy czar." Previously Schlesinger had served as Chairman of the Atomic Energy Commission, Director of Central Intelligence, and Secretary of Defense, and in his early days he taught economics at the University of Virginia. I was tickled by a story – undoubtedly apocryphal – about his days in academia that made the rounds when Schlesinger was in his new energy post.

As the story went, Schlesinger was such a convincing evangelist for capitalism that two students in his economics class decided to go into business after graduation. Their plan was to borrow money from a bank, buy a truck, and use it to pick up firewood purchased in the Virginia countryside, which they would then sell to the grandees in Georgetown. Schlesinger wholeheartedly endorsed their entrepreneurial leanings, and they proceeded with great enthusiasm. From the start of their venture, the former students could barely keep up with the demand.

Thus it came as quite a shock when their banker called to tell them the balance in their account had reached zero and the truck was about to be repossessed. They contacted Schlesinger, and he listened attentively as they recounted their experience: they had, in fact, been able to acquire vast amounts of wood for \$50 a cord, and they'd been able to sell all they had for \$40 a cord. How could they be broke? Where had they gone wrong? Schlesinger puffed on his ever-present pipe and said: "The answer's obvious: you need a bigger truck."

\* \* \*

While it certainly wasn't the case with Schlesinger (despite what the above tale suggests), most ordinary citizens don't have what it takes to figure out what is and isn't economically feasible. Since we're in the midst of election season, with promises of cures for our economic woes being thrown around, this seems like a particularly appropriate time to explore what can and can't be achieved within the laws of economics. Those laws might not work 100% of the time the way physical laws do, but they generally tend to define the range of outcomes. It's my goal here to point out how some of the things that central banks and governments try to do – and election candidates promise to do – fly in the face of those laws.

\* \* \*

When I was in high school, one of my buddies convinced me to take a class in accounting. I found the double-entry bookkeeping we learned to be logical, symmetrical and unambiguous. After accounting I moved on to economics, and I found it equally logical. The die was cast for my career in business.

Like the lesson of the Schlesinger story, the rest of economics is also pretty straightforward, and its laws are quite reliable. If you buy for \$50 and sell for \$40, you won't make money . . . period (or stay in

business long). That reminds me of a joke I used in “bubble.com” in January 2000, one my father told me roughly 60 years ago:

“I lose money on everything I sell.”  
“Then how do you stay in business?”  
“I make it up on volume.”

For those of us in the business world, economics defines reality. (You may think you’ve heard me poke at it, but what I deride is economic forecasting, not economics. There’s a big difference.) The realities of economics are the subject of this memo. My primary methodology will be to describe ways in which people (and especially politicians) tend to propose things that conflict with economic reality, and explain why they’re unlikely to work.

\* \* \*

Let’s start with central banks’ attempts to achieve monetary stimulus. When central banks want to help economies grow, they take actions such as reducing the interest rates they charge on loans to banks or, more recently, buying assets (“quantitative easing”). In theory, both of these will add to the funds in circulation and encourage economic activity. The lower rates are, and the more money there is in circulation, the more likely people and businesses will be to borrow, spend and invest. These things will make the economy more vibrant.

But there’s a catch. Central bankers can’t create economic progress; they can only stimulate activity temporarily. GDP, or national output, can be seen roughly as the amount of labor employed times productivity, or the amount of output per unit of labor. In the long term, these things are independent of the amount of money in circulation or the rate of interest. The level of economic activity is determined by the nation’s productiveness.

Central bank actions can encourage or accelerate economic activity, but they can’t create economic activity that otherwise wouldn’t occur. Much of what central banks do consists of making things happen today that otherwise would happen sometime in the future. It’s not clear that the effects are long-lasting or anything more than an acceleration of events within the confines of a zero-sum game. What is beneficial, however, as Professor Randall Kroszner of the Chicago Booth School of Business wrote me, is the fact that:

[Central banks] can help to prevent a complete financial meltdown and the negative economy-wide externalities associated with a financial collapse. In these circumstances, and if done appropriately, their actions can do more than just move up future production to the present by helping to avoid economic activity losses due to a panic.

In the old days, when cars often failed to start, there were fluids we could squirt into the carburetor to get them going. But they weren’t fuel for long-term operation.

For example, lending people money can enable them to buy things today that they otherwise mightn’t have bought until later (if at all). If a consumer buys a boat today with money made available through a low-interest loan, that’s a boat he won’t buy next year. Lending people money doesn’t alter their lifetime incomes, meaning consumers may buy fewer boats later, when the loans have to be repaid, causing disposable income to contract.



**So far, as the last seven years show, (a) central banks haven't been able to generate the growth they hoped for and (b) the impact of each successive jolt of stimulus seems to have been less powerful.**

Rather than believing central banks can make economies more productive, it's my bottom line that there's a naturally occurring growth rate for each economy, and that rate dictates the long-term output, not central bankers' actions.

\* \* \*

What have the following places had in common in recent years: China, Ireland, Spain and Arizona? The answer's simple: large numbers of empty new homes. In the last decade-plus, governments and central banks chose to encourage economic growth in these jurisdictions by making financing readily available for construction. This can do wonders for an economy . . . as it did in these cases in the years leading up to the crisis of 2007-08.

Construction increases the demand for labor, building materials, support services and ancillary businesses. There's only one catch: easy financing – especially if sufficient to cover 100% of costs – can encourage developers to create space for which there's no demand. The process of creating unsalable homes, unneeded office space and uneconomic infrastructure adds to GDP in the short run but burdens the countries' financial systems, especially the institutions that make the loans to builders. In the end, the bad loans stay with the banks, perhaps necessitating bailouts.

Another example can be seen in the case of Sainty Marine, a Chinese state-owned enterprise that recently made headlines by becoming China's first listed company to file for bankruptcy. Sainty Marine first bought and sold ships and then transitioned into shipbuilding, acting on contracts that – unlike elsewhere in the industry – were entered into without the benefit of financial guarantees. It needed financing in order to build those ships, and got it from state-owned banks. **But when a state-owned bank lends money to a state-owned shipbuilder, who's making business-like decisions? Who worries about issues like whether there'll be charters for the ships and whether owning them will be profitable?**

The point is that mistakes like overbuilding are always possible – but they're much more likely to occur if no one's making decisions on an economic basis. If lending personnel are making loans without a direct stake in their repayment, they're less likely to say “no” to weak loan applicants. And if borrowers won't be affected by a failure to repay loans, which of them will decline offers of financing?

Not all loans work. And when they don't work, both the lender and the borrower are usually affected. As someone once said, “bankruptcy is to capitalism as hell is to Catholicism.” **When the parties involved aren't motivated by profit or worried about loss, good economic decisions are unlikely to be made.**

\* \* \*

Riding to work the other day, I heard about protests occurring in France. Workers were complaining about potential changes in labor regulations that would make their jobs less secure. In brief, French workers like it the way things are: they can't be pushed beyond 35 hours a week, and employers' ability to terminate them is subject to a drawn-out, torturous and uncertain program. They also like their lengthy vacations and the extensive benefits provided by the state. **The question is where the ability to pay for**

**above average benefits will come from if neither the hours worked nor the productivity per hour is above average.** Governments and regulations can't produce prosperity.

In the current campaign, Bernie Sanders has called for free health care and free public college education for all. And all the candidates have sworn to protect the current level of Social Security benefits, which are sure to render the system insolvent absent other changes. Benefits like these have to be paid for. This can be done either out of "current earnings" – a share of GDP (i.e., tax revenues) – or through borrowings. But governments can't create out of thin air the means with which to make disbursements. In that way they're not so different from households or businesses.

\* \* \*

One way some governments think they can pull off the miracle of providing more is by raising taxes on the rich. After all, the rich have – by definition – more money than they need: everyone else gets by on much less.

"Populism" has been a strongly rising element in politics over the last decade. It primarily means drawing class distinctions and claiming to be on the side of the common man. This often comes down to playing on the resentment of the lower-earning majority toward the wealthy minority. Populism is a particularly strong force in the U.S. presidential election now underway, fed by economic dissatisfaction among the working class due to the effects of globalization, job outsourcing, and technological progress with which some haven't kept up. "Outsider" or non-establishment candidates in both parties – Donald Trump and Bernie Sanders – are having a lot of success telling voters the economy isn't working for them and appealing to resentment toward those who are doing better. Now even Hillary Clinton is saying of the wealthy and powerful, "The deck is stacked in their favor . . . my job is to reshuffle the cards."

Taxes are the main instrument for politicians to put class resentment to work. Many eventually resort to an old saw: "We're not out to soak the rich. We just want them to pay their fair share." I discussed this subject at length in "It's All Very Taxing" (November 2011). In my view, however, (a) there's no way to determine what the fair share is, (b) there are only the opinions of self-styled experts on this subject, and (c) "fair share" always seems to come down to "more than they've been paying."

**It makes sense to assume that most democratic societies eventually will reach the point where the majority views the top tier as a cash cow available for unlimited milking. "Let's hit them for a little more; there's nothing they can do about it." But the truth is, this "tyranny of the majority" is an unhealthy development.** First, society does better when able members have strong incentive to contribute. Second, upward aspiration and mobility will be constrained when taxes become confiscatory. Finally, taxpayers aren't necessarily powerless in the face of rising tax rates.

That brings me to an article that appeared in *The New York Times* on April 30, entitled "One Top Taxpayer Moved, and New Jersey Shuddered." It concerns the impact of rising rates on taxpayer behavior, starting from the fact that New Jersey's biggest single earner had moved to Florida. (New Jersey has raised its top income tax bracket from 6.37% in 1996 to 8.97% today, whereas Florida doesn't have a state income tax.)

"If you're making hundreds of millions of dollars and you're paying close to 10 percent to the state of New Jersey, you do the math," said John Bramnick, the Republican leader in the New Jersey Assembly. "You can save millions a year by moving to Florida. How can you blame him?" . . .

In New York, California, Connecticut, Maryland and New Jersey, the top 1 percent pay a third or more of total income taxes. Now a handful of billionaires or even a single individual . . . can have a noticeable impact on state revenues and budgets. . . .

In California, 5,745 taxpayers earning \$5 million or more [or only 4/100s of a percent of the 13.6 million returns filed] generated more than \$10 billion of income taxes in 2013, or about 19% of the state's total, according to state officials. "Any state that depends on income taxes is going to get sick when one of these guys gets a cold . . ."

While not everyone would change their residence to reduce their taxes, some will. Remember that seven of the 50 states do not tax their residents' incomes. **Thus the bottom line on this – I think the good news in terms of fiscal responsibility – is that states have no choice but to think of taxpayers as mobile. If you raise the top tax rate by 10%, you won't collect 10% more taxes from them.** A surprisingly large number of the people Nancy and I meet in New York have their residences in Florida. That's a reflection of economic reality – and should restrain the tendency to excessively tax the rich.

The U.S. is one of only a tiny number of countries whose citizens are taxed on all their worldwide income, regardless of where they live or where their income is earned. Thus, Americans don't have a good way to escape federal income taxation by moving abroad. (Technically, they can leave the U.S. tax system by paying the taxes that would be due if they were to sell all their assets and realize all the appreciation to date. But they also have to surrender their citizenship and sacrifice frequent visits to the U.S., and the number of people willing to do all this is limited.)

Citizens of almost every other country have an easier way to respond when the "soak-the-rich" movement arrives (see the big earners who moved away when France enacted a 75% top rate a few years ago). **Thus most governments are aware that while they can raise tax rates on people of means, in most cases they can't make them sit still and take it.**

\* \* \*

**Another way national governments can make it easier to accomplish their financial goals is by printing money. But flooding the market with more currency debases the value of the currency.** They can increase people's nominal incomes, but eventually they'll find their fatter wallets don't contain any more spending power than they used to.

In "The Limits to Negativism" (October 2008), I discussed the fact that in Weimar Germany, the government took the 1,000 mark note and over-stamped it "One Million Marks." But it still only bought one goat.

The mark fell from 60 to the U.S. dollar in early 1921 to 320 to the dollar in early 1922 and 8,000 to the dollar by the end of 1922. It's hard to believe, but according to Wikipedia (user-maintained and perhaps not always the most authoritative):

In December 1923 the exchange rate was 4,200,000,000,000 Marks to 1 U.S. dollar. In 1923, the rate of inflation hit  $3.25 \times 10^6$  percent per month (prices double every two days).

One of the firms printing these [new 100 trillion Mark] notes submitted an invoice for 32,776,899,763,734,490,417.05 ( $3.28 \times 10^{19}$ , or 33 quintillion) Marks. [That's not a misprint.]

The great advantage for governments in creating inflation lies in the ability to meet obligations with debased currency. That was the motivation behind Germany's hyperinflation in the 1920s – to make it easier to cover expenses and debts denominated in Marks.

Today most nations want to see inflation. That would reduce the “real” value of their national debt and ease repayment in real terms. Treasuries and central banks have tried to encourage inflation by cutting interest rates and increasing the amount of money in circulation. Quantitative easing, for example, consists of the Fed using newly printed dollars to buy outstanding debt; this should increase the amount of money in circulation and thus raise the dollar price of goods. Voilà: inflation.

But governments' efforts have been strikingly unsuccessful and, so far, inflation is MIA. Inflation is a mysterious (and, I think, largely psychological) phenomenon. **The U.S. government couldn't figure out how to stop it in the 1970s, and the nations of the world can't find a way to start it today.** Classically, inflation has resulted from (a) “demand pull” – too many buyers for a fixed supply of goods, or (b) “cost push” – rapid increases in the costs of production. Neither of these causes is in evidence today. Thus inflation is quite feeble, and that's disappointing to countries that would like to pay their debts with cheaper currency.

\* \* \*

A related tool for national economic betterment consists of another route toward currency debasement: devaluation. A nation can increase its ability to deal with the rest of the world by adjusting its currency's rates of exchange.

Let's say the U.S. wants to increase its exports of manufactured goods. One way to do this is to make the goods cheaper. But what if the dollar costs of manufacturing can't be reduced? In that case, why not just reduce the amount of foreign currency it takes to buy a dollar's worth of goods?

For example, let's say the selling price of a U.S. widget is \$100, and there are 10 Ruritanian kopeks to the dollar. Thus a widget costs 1,000 kopeks in Ruritania. Say we change the exchange rate to 8 kopeks to the dollar. Now that widget costs a Ruritanian buyer only 800 kopeks. The number of dollars the U.S. seller receives is unchanged, but the number of kopeks the Ruritanian buyer has to pay for a widget is reduced by 20%. Sales of U.S. widgets to Ruritania skyrocket.

Of course, while a weaker currency makes a country's exports more competitive, it also means its citizens have to pay more of their home currency to buy imports. **So, as in the case of the other things under discussion here, there's no free pass. There's little a country can do in terms of policy actions to improve its situation that (a) doesn't have negative ramifications and (b) will enhance the long-run outlook in the absence of fundamental improvement in economic efficiency.**

And, by the way, here's another wrinkle: you can't just devalue your currency; you can only devalue it **against another currency.** What happens when multiple countries want to devalue at the same time? China tries to devalue the yuan versus the yen, but Japan tries to devalue the yen relative to the yuan. This is called “competitive devaluation.” **The one thing we can be sure of is that every country can't simultaneously devalue versus all the others . . . try as they may.**

\* \* \*

This discussion of devaluation and exchange rates leads eventually to the entire issue of globalization and international competition. Globalization is one of the most important and influential topics today, and it is shaping economic progress and political discourse.

Let's go back to the early post-World War II period. The U.S. mainland was physically and economically intact – having been spared from combat – while Europe and Japan had been decimated. U.S. corporations were performing strongly, and the prosperous U.S. consumer was the source of powerful demand. In most fields, American products were the best in the world. “Imported cars” were essentially non-existent, and the television sets, hi-fis and appliances our parents (or grandparents) bought were produced here. Even our clothing was made in America.

In this very positive economic environment, consumers, producers and workers all thrived, and in most regards, Americans enjoyed the highest standard of living in the world. Now that is in doubt, and this has become a main issue in the presidential campaign. Here's how I put things in “What Worries Me” (August 2008):

One of the reasons for our high standard of living is the fact that Americans have been paid more for doing a given job than everyone else. This was fine as long as (a) the U.S. enjoyed the benefits listed [earlier], and (b) significant barriers protected the status quo. But why should this go on? How can it go on?

Think about two cities. City A has more jobs than people, and city B has more people than jobs. Initially, people in city A – where labor is relatively scarce – will be paid more for doing a given job than people in city B. **The key to their continuing to earn more is the existence of barriers that prevent people from moving to city A.** Otherwise, people will move from city B to city A until the ratio of people to jobs is the same in both cities and so are the wages. **Among other things, geographic inequalities are dependent on the immobility of resources.**

For much of the last century, barriers kept our pay high. Other countries' output wasn't as good as ours. Some lacked investment capital, and some were decimated by war from time to time. Perhaps they didn't possess our ability to generate technological advancements or our managerial skills. High transportation costs, tariffs, prejudices (when I was a kid, “Japanese transistor radio” was synonymous with “low quality”) or legal restrictions (e.g., keeping foreign airlines from competing freely in our markets) may have protected American wages. International trade wasn't what it is today. But all of these things can change over time, and it's hard to see how the earnings supremacy of U.S. workers will be sustainable. . . .

In 1949 we saw the arrival of a little car called the Volkswagen Beetle. It was odd, with its rounded shape and the engine in the back, but boy was it cheap: roughly \$1,300. The quality of foreign cars was initially the subject of skepticism, but over time quality improved, the superior price/value bargain overcame cultural resistance, and the share of car sales going to imports grew.

Two Volkswagens were sold in the U.S. that year, then hundreds, and then many thousand. Soon Japan started to send over the Toyota, Datsun (now Nissan) and Honda, and they were successful, too. To put their success into perspective versus those two Beetles in 1949, in 1981 the Japanese automakers entered into a “voluntary restraint agreement” limiting the number of cars they could bring into the U.S. to 1.68

million per year. More recently Korea began sending cars to the U.S. Today foreign brands account for more than 55% of car sales in the U.S. market. Of course a good part of the success of imports has been related to lower costs. (A substantial number of the “foreign brand” cars sold in the U.S. today are actually made here, but in non-unionized plants at total labor costs including benefits that average \$10/hour, or \$250/car, less than the U.S. carmakers’ unionized plants. In the past, when foreign cars were actually made abroad, the cost differential was much more dramatic.)

**U.S. automakers’ market share was destined to decline if foreign cars were some combination of better and cheaper. And when it did, U.S. autoworkers’ income and standard of living had to start to equalize relative to those building better-value-for-the-money cars abroad.** Trade barriers, high transportation costs, a strong union and inertia kept the U.S. worker ahead as the 20<sup>th</sup> century wore on, but eventually reality caught up with the industry.

Here’s an example: the autoworkers’ union had bargained for excellent benefits for auto workers, and according to the Economic Policy Institute:

In 2005, there was a gap of \$3.62 between the average hourly wage of \$27.41 at Ford and \$23.79 for [foreign-owned plants]. When fringe benefits, legally required payments, pension benefits, retiree health care, and other post-employment labor costs are added in, the gap grew to \$20.55 (\$64.88 versus \$44.33).

There was a limit on the ability of U.S. automakers to sell cars burdened with substantial benefit costs while foreign car costs included much less for benefits. **The bottom line is that, in a globalized world, if people in country A will work for less than those in country B, there are only four possibilities for manufacturers in country B:**

- **charge a higher price for the same product and lose market share,**
- **charge the same price for the higher-cost product and enjoy smaller profit margins (or even suffer losses),**
- **charge the same price for an inferior product (this probably can’t be done for long), or**
- **get the government to erect trade barriers on imported goods, such as a tariff that equalizes selling prices or a quota that restrains competition.**

Thus the operating and financial condition of U.S. automakers deteriorated such that, during the Global Financial Crisis, General Motors and Chrysler declared bankruptcy (enabling them to cut costs and shed benefits), and Ford underwent a thorough restructuring with the same result. Workers’ more modest contracts since then have, of necessity, caused their relative standard of living to decline. This is an example of the reasons behind the working class’s current discontent.

\* \* \*

**Of course, this leads me to the idea that probably did more than any other to set the wheels in motion for this memo: “we’ll bring back the jobs.”** One of Donald Trump’s most emphatic promises is that he will respond to America’s loss of manufacturing jobs to other nations by causing goods to be made here again. Bernie Sanders opposes free trade and argues we must “develop trade policies which demand that American corporations create jobs here, and not abroad.” Are these actionable positions?



(A minute for an aside: U.S. manufacturing employment of 12.3 million workers is down 37% from the peak of 19.5 million reached in 1979. So when did the value of manufacturing output hit its peak? The answer may surprise you: **today!** The current level of U.S. manufacturing output is in the vicinity of the all-time high and roughly double the 1979 level. Twice the output with less than 2/3 the workers means output per worker has more than tripled. Thus, if we were producing today's output at the 1979 level of productivity, we'd be employing 25 million more workers! So while we've lost 3.2 million jobs to China since 2001, for example, we've lost many times that to improvements in productivity. **Perhaps if the government wants to preserve jobs it should just outlaw productivity gains.** That thought reminds me of the early-19<sup>th</sup>-century Luddites, English textile workers who were unhappy about industrialization and banded together to destroy labor-saving factory machinery. Of course, history shows it's hard to hold back economic progress by edict or force of will.)

Let's assume it's possible to manufacture high-labor-content goods like cellphones much more cheaply in China than in the U.S. (not an unreasonable assumption, since the average manufacturing worker in China makes less than \$9,000 per year). And let's assume the resulting cost to deliver a cellphone to an American retailer is \$100 if made in China versus \$150 if made in the U.S. In that case, a Trump or Sanders administration would have the following choices:

- forbid imports of cellphones, requiring that they be made in the U.S. at a cost of \$150,
- find Americans willing to work at Chinese wages, bringing the cost down to \$100, or
- impose a trade tariff on Chinese imports that equalizes the U.S. retailer's cost for phones at \$150.

I'm not aware of any other possibilities. The first probably isn't feasible in this day and age. The second is equally unlikely, since few Americans are likely to elect to do the tedious work involved, and the Chinese wage of less than \$5 per hour would violate our federal minimum. That leaves the third option: tariffs. And, in fact, Mr. Trump has said he would impose a 45% tariff on Chinese imports, 35% on Mexico, and various tariffs on goods from other countries. Here are some of the problems with that:

- First, such tariffs are probably barred under trade agreements that are in place. To impose them, we would have to abrogate those agreements.
- We have to wonder about retaliatory actions – wouldn't other countries impose offsetting tariffs on U.S. exports that would further harm our manufacturing base? As *The New York Times* wrote on May 3, "starting a trade war might be cathartic for workers who have lost jobs, but it is unlikely to create a lot of factory work."
- What would happen to our ability to refinance our perpetually growing national debt if China, our biggest creditor, decided one day it wasn't quite as eager to participate in new Treasury financings?
- What would rising barriers do to one of the main motivations behind the broadening of U.S. trade agreements since World War II: preventing conflict?
- **Finally, but most simply, what American wants to pay 50% more for a cellphone than he does today?**

What we have here is a reminder that "economic common sense" isn't so common. Have the voters who think it's a great idea to "bring back the jobs" thought about what goods manufactured at U.S. wages – or tariffs designed to bring the cost of Chinese goods up to those levels – would do to their cost of living? I'd guess not. **How will the interests of the 3.2 million Americans estimated to have lost their manufacturing jobs to China be balanced against the hundreds of millions who would have to pay considerably more for imported goods? Not an easy question.**

Quotas, tariffs and subsidies are all ways for countries to protect industries that can't hold their own against international competitors without these things. Thus they're a good example of ways in which policy decisions can lead to distortions. **Since the industries for which tariffs and subsidies are established are, by definition, industries that can't compete without them, for these things to be enacted, someone has to make a decision that (a) these industries should be kept afloat and (b) consumers of these industries' goods should be prevented from paying the lower prices that would prevail if consumers had easy access to goods from abroad, free of tariffs.**

Do we want to subsidize our farmers, or do we want to allow Americans to buy cheap crops from abroad (and let the farmers go out of business)? Leaving aside strategic national considerations, do we want to protect the jobs of those who work in industries where the U.S. is uncompetitive, or do we want to allow U.S. consumers as a whole to minimize their cost of living? **In each case, it's one or the other . . . but not both.**

The bottom line, as with so many of the things I'm discussing here, is that economic laws cannot be ignored or magical solutions willed to appear. While it's far from the entire explanation, the main reason the U.S. has lost manufacturing jobs to foreign countries is that people there are willing to work for much less. **In this globalized world, that means Americans can't enjoy both the high-paying manufacturing jobs they used to have and the low-cost goods they've been buying of late. The imposition of tariffs can't solve that conundrum.** As long as American workers demand wages higher than people elsewhere, they're unlikely to manufacture much for the rest of the world, or for themselves, either. This is an incredibly clear example of how economic reality makes it hard to find easy solutions to difficult problems.

\* \* \*

While on the subject of wages, it's appropriate to mention the minimum wage. The U.S. government first established a federal minimum wage of \$0.25 an hour in the Fair Labor Standards Act of 1938. It has been raised 22 times since then and now stands at \$7.25. At the state level, there's a patchwork of regulation. A few states don't have a minimum wage. Some have minimums that are below the federal level. Many states use the federal minimum, and a bunch have minimums higher than the federal level.

Just this year, however, increases in the state minimum to \$15 (with exceptions) have been enacted in California (by the end of 2021, from \$10 today) and in New York (by the end of 2018-19, from \$9 today). As the wages of the lowest-paid workers increase, where does their newfound prosperity come from, and what will be the effects?

The debate over increasing the minimum wage is loud and inconclusive . . . and mainly a matter of ideology. Conservatives and business interests are sure an increase in the minimum wage will be disastrous for both business and workers. If higher wages drive up selling prices vis-à-vis competitors who face lower labor costs, business and jobs will suffer. If selling prices and non-labor costs are unchanged, there's a fixed pie to be divided up (between workers' wages and business owners' profits). Thus, if you mandate higher pay per worker and the owners' slice remains the same, the wage slice of the pie by definition will cover fewer recipients; the result is job losses. And if instead you take the higher wages out of the owners' part of the pie, fewer businesses will start up, and some might close, again resulting in job losses.

Liberals and labor organizations, on the other hand, insist there will be no material impact. For example, according to a study from the National Employment Law Project, following most of the 22 federal



increases since 1938, job formation didn't slow from what it had been. And in the few cases where it did slow, the increase took place in recessionary times, so maybe it wasn't the result of the wage increase.

In between these polar positions (neither of which is probably completely right), there are lots of things to think about:

- What's right for undifferentiated businesses (think fast food) in a high-minimum-wage state abutting one where the wage is much lower?
- Is the same minimum wage right for all businesses in a given state regardless of their varying degrees of labor-intensiveness?
- Is the same minimum wage right for all businesses in a state regardless of their profitability? And what about non-profits like hospitals, with their heavy reliance on low-cost labor?
- Is the same minimum wage right for all parts of a state regardless of the differences in their economic vibrancy and cost of living?
- And is a benign job-formation-impact history relevant given that we're now talking about increases of 50-100%, large changes relative to history, and given that the U.S. no longer has all the growth potential and competitiveness that it did when the prior increases took place?

Senator Sanders has said he'll enact a \$15 minimum federal wage. Is it possible that \$15 is an appropriate minimum for all regions, states and cities? (It's interesting to note in this regard that the proposed changes in New York and California treat New York City differently from Rochester, and Los Angeles differently from Bakersfield.) And if a single minimum wage isn't right for every location, what government commissariat will perform the impossible task of setting the right minimum for each one?

I don't mean to decide the minimum-wage issue here, but rather to say it's not an easy subject. **It seems unlikely that you can make everyone better off just by mandating a higher wage.** Some businesses will become less successful or non-viable. Business formation may be discouraged. The breakeven cost for further investment in automation will decline. (Headline from today's *Washington Post*: "Ex-McDonald's CEO says raising the minimum wage will help robots take jobs") Some workers may lose their jobs or fail to get jobs. Remember, governments and regulators don't create wealth, they only redistribute it. Their impact is largely a zero-sum game except in the longest-term sense.

\* \* \*

As an avowed "democratic socialist," Bernie Sanders expresses hostility toward business, especially the financial sector – "The business model of Wall Street is fraud" – and he sounds like he'd go pretty far to regulate the economy. For instance, he's said he will break up the big banks (without much mention of how).

Rather than go into all the economic laws his policies violate, I'll simply ask some questions I consider relevant:

- What has been behind the United States' progress to the top of the world's economic heap? (If he doesn't attribute a lot of our success to the capitalist, free-market system, then we disagree.)
- Where are the countries that have thrived under control economies? How about the U.S.S.R. and East Germany? (Didn't the ability to watch the former East Germany and West Germany side-by-side provide a good controlled experiment?) How do average folks live in Cuba, Venezuela and Vietnam? Why is China continually increasing its use of free-market techniques?

How about an example of central economic control in action? Here are some excerpts from an article about Venezuela that appeared in *The Atlantic* of May 12, 2016 (I've added some emphasis and reordered the paragraphs):

A case in point is the price controls, which have expanded to apply to more and more goods: food and vital medicines, yes, but also car batteries, essential medical services, deodorant, diapers, and, of course, toilet paper. **The ostensible goal was to check inflation and keep goods affordable for the poor, but anyone with a basic grasp of economics could have foreseen the consequences:** When prices are set below production costs, sellers can't afford to keep the shelves stocked. Official prices are low, but it's a mirage: The products have disappeared.

**Here's a shocker: you can set prices for goods, but you can't make people produce them.** That sounds a lot like economic reality.

These ineffective – or counterproductive – price controls were only one part of a huge economic mess. How did it arise?

Not long ago, Venezuela – “a seemingly modern, seemingly democratic nation just a few hours' flight from the United States” – was wealthy and a good place to live.

Sitting atop the world's largest reserves of oil at the tail end of a frenzied oil boom, the government led first by [Hugo] Chavez and, since 2013, by [Nicolas] Maduro, received over a trillion dollars in oil revenues over the last 17 years.

But then it saw the beginning of:

The experiment with ‘21<sup>st</sup>-century socialism’ as introduced by . . . Chavez, a self-described champion of the poor who vowed to distribute the country's wealth among the masses, and instead steered the nation toward the catastrophe the world is witnessing under his handpicked successor Maduro . . .

In the last two years Venezuela has experienced the kind of implosion that hardly ever occurs in a middle-income country like it outside of war. Mortality rates are skyrocketing; one public service after another is collapsing; triple-digit inflation has left more than 70 percent of the population in poverty; an unmanageable crime wave keeps people locked indoors at night; shoppers have to stand in line for hours to buy food; babies die in large numbers for lack of simple, inexpensive medicines and equipment in hospitals, as do the elderly and those suffering from chronic illnesses.

This is the fate that has befallen a once-wealthy and once-modern nation operating under central economic control. Shall we give it a try?

\* \* \*

For me, the bottom line on economic reality is that, in the short run, governments theoretically have the ability to:

- a) **accelerate economic activity**, bringing forward to today otherwise-future activity,
- b) **make life better for one group of citizens at the expense of another** (e.g., the rich versus the poor), and
- c) **encourage one form of activity versus others** (e.g., investing for capital gains versus investing for dividends).

**One could view these things as potentially helpful policy tools, or as actions that distort the workings of the economy. By definition, they are designed to accomplish results that wouldn't occur if the market were left free.** Perhaps not all the goals are truly desirable, and some may cease being considered desirable after they've been enshrined in law, possibly because of unintended consequences. Some issues – for example, the question of whether income on capital should be taxed higher or lower than income from labor – are just a matter of opinion based largely on political point of view. Some actions taken may be nothing more than patronage and rewards for voter loyalty.

In contrast to the above list of things governments can do to affect economies, there's a significant list of things they can't do.

- a) **They can't create much net growth, wealth or prosperity through stimulus alone.** A certain quantum of wealth is produced by an economy. It can be moved around, but governments can't increase it magically.
- b) **They can't make everyone better off simultaneously.** For the most part they can only take from one group to give to another. An example is the ability to improve the fortunes of workers in an endangered industry through import tariffs that raise prices for the industry's customers.
- c) **There aren't many actions they can take that won't have repercussions for people other than the ones they're intending to benefit, and second-order consequences for everyone.** France can enact regulations that protect current jobholders by making it difficult to lay them off, but those same regulations will deter entrepreneurs and owners from starting or expanding businesses and hiring new employees.
- d) While governments can provide incentives and nudge people in a given direction, **they can't make economies (or the people in them) perform as desired.** For example, in the 1990s the Japanese government tried to stimulate consumption by mailing out checks (something that's referred to today as "helicopter money"). But its conservative citizens put the money in the bank rather than spend it, turning the government's action into a classic case of "pushing on a string."

**Fundamental improvements – intelligent changes in investment incentives, the tax system or infrastructure, for example – can increase the slope of the growth curve and provide substantial net long-term benefits for a society (although not necessarily for every individual member). Short-term fixes simply cannot create wealth out of thin air.** I'll close with something Winston Churchill said, with some additions of my own: "We contend that for a nation to try to tax [or stimulate or devalue] itself into prosperity is like a man standing in a bucket and trying to lift himself up by the handle."

May 26, 2016

## ***Legal Information and Disclosures***

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## Public Purpose Investments

**As of June 30, 2017**

	See Notes Next Page	Interest Rate		Statutory Allotment	Outstanding Investments	Interest Paid
<b><u>Permanent Mineral Trust Fund</u></b>						
Aeronautics Commission - Airport Loans (OSLI)	A	5.00%		\$10,000,000	\$2,907,190	\$155,762
Farm Loans (OSLI)	B	7.00%	*	275,000,000	21,742,001	933,705
Hot Springs State Park (OSLI)	C	6.00%		2,000,000	244,125	10,659
Hydro-power Development Loans (OSLI)	D	4% -6%		10,000,000	-	-
Industrial Development Bonds (repealed July 1, 2016)	E	5.75%		-	-	-
IDB - Lost Creek					23,382,642	1,504,826
IDB - Uranerz					12,444,327	786,507
Irrigation Loans (OSLI)	F	4% -6%		20,000,000	446,818	24,304
Joint Powers Loans (OSLI)	G	5.83%	*	60,000,000	4,956,088	284,435
Natural Resource Board (OSLI)	H	0.00%		300,000	-	-
Reimbursement to Counties for Deferred Taxes	I	0.00%		2,000,000	-	-
Small Business Assistance & FmHA Ag Loans (statute repealed 2008)	J	5.00%		-	29,189	1,908
Water Development - Gillette Madison Pipeline Project	K	4.00%		44,328,358	44,328,358	-
Water Development - Shoshone Municipal Pipeline Treatment Plant	L	4.00%		12,073,148	-	688,549
				<b>\$435,701,506</b>	<b>\$110,480,738</b>	<b>\$4,390,656</b>
<b><u>Common School Permanent Land Fund</u></b>						
Drainage District Bonds	M	4.00%		24,000	24,000	-
Wyoming Real Estate-State Land Purchases	N	0.00%		86,683,553	18,335,738	-
				<b>\$86,707,553</b>	<b>\$18,359,738</b>	<b>\$0</b>
<b><u>State Agency Pool (Pooled Investments)</u></b>						
Time Deposit Open Account Banking Program	O	0.62%	*	<b>UNLIMITED</b>	\$138,499,000	\$896,499
<b>Sub-Total</b>				<b>\$522,409,059</b>	<b>\$267,339,476</b>	<b>\$5,287,154</b>
<b><u>Other Wyoming Investments from Permanent Mineral Trust Fund</u></b>						
Basin Electric Power Bond	P			-	\$22,498,000	\$1,129,141
Large Project Fund (ending June 2019)	Q	Set by SLIB		\$25,000,000	-	-
<b>Total Puplic Purpose Investments</b>				<b>\$547,409,059</b>	<b>\$289,837,476</b>	<b>\$6,416,295</b>
* Average Interest Rates						

# Public Purpose Investments

## Notes & Statutory References

- (A) Aeronautics Commission, Airport construction, development and improvement loans under W.S. 9-12-703;
- (B) Farm loans under W.S. 11-34-129; \$275 million authorized of which \$27.5 million is for beginning agriculture producer loans and \$55 million is for a livestock enhancement program;
- (C) Hot Springs State Park loans under W.S. 36-8-318;
- (D) Hydro-Power Development loans under W.S. 11-34-306(a);
- (E) Industrial Development Bonds, no investment in excess of \$100 million is to be made for any one project without specific legislative authority; expires 06/30/17 unless extended under W.S. 9-4-715(m)(vii); repealed 07/01/16;
- (F) Irrigation district loans under W.S. 11-34-302;
- (G) Joint Powers loans under W.S. 16-1-109;
- (H) Natural Resource Board under W.S. 11-34-303;
- (I) Deferred Property Taxes under W.S. 9-4-715(j);
- (J) Guaranteed portion of certain Small Business Assistance Act loans and guaranteed portion of certain Farmers Home Administration. Up to \$55 million was previously authorized and no new loans were to be made after December 31, 2006. W.S. 9-4-701(e) was repealed when investment statutes were amended in the 2008 legislative session;

# Public Purpose Investments

## Notes & Statutory References

- (K) Water Development - Gillette Madison pipeline project under Wyoming Session Laws, 2009, Chapter 103 (\$5,527,500), and Wyoming Session Laws, 2010, Chapter 115 (\$8,085,000), and Wyoming Session Laws, 2011, Chapter 61 (\$15,939,739) and (\$14,776,119). Interest on monies loaned does not begin to accrue until the Water Development Commission determines the project beneficial to the sponsor. Information provided by the Water Development Agency indicates that the benefits accrual date is estimated to occur before July 1, 2018.
- (L) Water Development - Shoshone municipal water treatment project, under Wyoming Session Laws, 1987, Chapter 117, as amended;
- (M) Drainage District Bond Program under W.S. 41-6-201 through 202;
- (N) Wyoming Real Estate-State Land Purchases authorizes the investment of funds received from sale of state trust lands plus up to \$2 million one-time seed money contained in the Common School Permanent Land Fund (CSPLF) by purchasing land and improvements within Wyoming as assets of the Trust. There was also \$4 million appropriated to the State Loan and Investment Board from the CSPLF in 2005 for this purpose as well under W.S. 9-4-715(k);
- (O) Time Deposit Open Account authorizes the State Treasurer to deposit state funds in approved Wyoming banks and Wyoming savings and loans. Currently, the amount the State Treasurer has made available to banks each year is five percent (5%) of the State Agency Pool assets as of December 31 under W.S. 9-4-803;

### **Appropriations**

- (P) Basin Electric Power Bond under W.S. 37-5-406;
- (Q) Large Project Fund under Wyoming Session Laws, 2014, Chapter 46, and Wyoming Session Laws, 2016, Chapter 41

# Large Project Loan Program

## Potential Legislative Changes

### 1. Interest Rate

2014 Wyoming Session Laws, Chapter 46, Section 2(e)(ii):

The ~~treasurer shall adopt interest rates to be charged for~~ loans under this section shall bear interest at a fixed or adjustable rate, indexed to the rate of the United States Treasury note with a term that most closely matches the term of the loan, that the state treasurer determines is reasonably commensurate with the risk and as approved by the Wyoming business council and the state loan and investment board pursuant to this act ~~and following consideration by the Wyoming business council.~~

### 2. Guarantors of Loans

2014 Wyoming Session Laws, Chapter 46, Section 2(e)(vii):

When appropriate, the state treasurer may require continuing loan guarantees by affiliates and/or principals of the borrower.

### 3. Fees and Experts

2014 Wyoming Session Laws, Chapter 46, Section 2(e)(ix) and Section 2(h), as amended by 2016 Wyoming Session Laws, Chapter 41, Section 3:

(e)(ix) The state treasurer shall charge a loan origination fee or loan guarantee fee of one percent (1.0%) of the total loan or guaranteed loan amount. Funds collected under this paragraph shall be deposited in the large project account within the revolving investment fund or used to pay for the costs of experts and service providers retained by the state treasurer pursuant to subsection (h) of this section.

(h) The state treasurer is authorized to employ such experts and service providers as necessary to fully evaluate ~~and~~ negotiate and implement the terms and conditions of the loan and loan guarantees. ~~The cost of any expert employed~~ If experts and service providers are retained by the state treasurer under paragraph (e)(ix) of this subsection, payment to experts and service providers retained under this section which exceed the loan origination fee or loan guarantee fee shall be paid by the applicant.



# Large Project Loan Program

## Potential Legislative Changes

#### 4. Economic Analysis Requirement

2017 Wyoming Session Laws, Chapter 150, Section 2:

In conducting a fiduciary analysis on an economic development project ~~considered for funding~~funded from the large project account and from the monies appropriated under section 1 of this act, the state treasurer shall perform an economic and fiscal analysis regarding consequential state and local impacts. The analysis shall identify any induced revenues and induced costs associated with a project under consideration for each year for the ten (10) years following completion of the project. A local cost analysis shall consider impacts on public education, public safety, fire protection, public utilities and the courts and shall determine whether projects contribute more in tax revenue than they cost in public funds. Any analysis required by this section shall be conducted by an entity qualified to provide the analysis using nationally accepted econometric modeling techniques. Any analysis required by this section shall be paid for using funds appropriated by this act.

# Large Project Loan Program

## Progress of Projects

### ➤ Atlas Carbon

- Campbell County project to add a second line making activated charcoal out of coal
  - In final stages of diligence anticipating funding in the next couple of months

### ➤ Lannett/Cody Labs

- Awaiting some final documentation and the possibility of amending the application to expand its scope
  - Awaiting Cody Labs' decision on whether and how much more funding to request

### ➤ Standard Alcohol/Big Horn Technologies

- Denied
  - They have indicated they will not pursue a new application